

## **Material Safety Data Sheet**

Identity: Magnesium fluoride

Formula: MgF<sub>2</sub>

### SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

### SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Form Weight: 62.30

CAS #	OSHA PEL	ACGIH TLV	%
7783-40-6	2.5mg(F)/m <sup>3</sup>	2.5mg(Ta)/m <sup>30</sup>	0-100%

### SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 2239.0 °C

Vapor Pressure (vs. air or mmHg): N/A

Melting Point: 1396.0 °C

Vapor Density (vs. air or mmHg): N/A

Evaporation Rate: N/A

Specific Gravity (H<sub>2</sub>=1): 2.0 -3.2

Solubility in water: Soluble

Percent Volatile: N/A

*Appearance and odor:* White powder or pieces, no odor

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

*Flash Point:* N/A    *Method Used:* Non-Flammable    *Explosive Limits:* LEL: N/A    UEL: N/A

#### *Extinguishing Media:*

Use suitable extinguishing agent for surrounding material and type of fire.

#### *Special Fire Fighting Procedures:*

Firefighters must wear full face, self-contaminated breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

#### *Unusual Fire and Explosion Hazards:*

When heated to decomposition, magnesium fluoride may emit toxic fumes of fluorine and magnesium oxide.

SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (stability):* None

*Incompatibility:* Strong acids

*Hazardous Polymerization:* Will not occur

*Hazardous Decomposition or Byproducts:* Fumes of fluorine and magnesium oxide.

*Conditions to avoid (hazardous polymerization):* None

SECTION VI - HEALTH HAZARD DATA

*Routes of Entry:*            *Inhalation: Yes*    *Skin: Yes*    *Eyes: Yes*    *Ingestion: Yes*    *Other? No*

*Signs and Symptoms of Overexposure:*

*Inhalation:*        Coughing, burning sensation, excessive salivation, vomiting, thirst, sweating, colic, and diarrhea.

*Ingestion:*        Nausea, vomiting, diarrhea, abdominal burning, camp-like pain, stiff spine, calcification of ligaments in ribs and pelvis.

*Skin:*                May cause redness, itching and burning.

*Eye:*                May cause redness, itching burning and watering.

*Health Hazards (Acute and Chronic):*

Magnesium compounds have variable toxicity. There is no evidence that magnesium produces true systemic poisoning. Particles of metallic magnesium or magnesium alloy which perforate the skin or gain entry through cuts and scratches may produce a severe local lesion characterized by the evolution of gas and acute inflammatory reaction, frequently with necrosis.

Inorganic fluorides are generally highly irritating and toxic. Chronic fluorine poisoning occurs among miners of cryolite, and consists of sclerosis of the bones, cause by fixation of the calcium by fluorine. There may also be some calcification of the ligaments. The teeth are mottled and there is osteosclerosis and ostemalacia. Large does can cause very severe nausea, vomiting, diarrhea aggravate asthma and severe bone changes making normal movements painful. Some signs of pulmonary fibrosis are noted along with enzyme system effects. (Sax Dangerous Properties of Industrial Materials, eighth edition.

*Inhalation:*

*Acute:*              May cause nausea, vomiting, diarrhea aggravate asthma, salivation, thirst and sweating.

*Chronic:*            May cause pulmonary fibrosis and severe bone changes.

*Ingestion:*

*Acute:*              Moderately toxic by ingestion, can cause gastrointestinal irritation, nausea dehydration, muscle weakness, lethargy, camp like pain, and central nervous system depression.

*Chronic:*            May effect circulatory, enzyme and nervous system.

*Skin:*

*Acute:*              May cause irritation, rashes, and skin granulomas.

*Chronic:*            May cause dermatitis.

*Eye:*

*Acute:* May cause irritation.

*Chronic:* No chronic health effects recorded.

*Target Organ:* May affect the skeleton, kidneys, central nervous system, respiratory system, eyes and skin.

*Carcinogenicity:* NTP? No      IARC Monographs? No      OSHA Regulated? No

*Medical Conditions Aggravated by Exposure:* Can aggravate attacks of asthma.

*Emergency and First Aid Procedures:*

*Inhalation:* Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical

*Ingestion:* Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

*Skin:* Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention

*Eye:* Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

*Steps to be taken in case material is released or spilled:*

Wear appropriate respiratory and protective equipment specified in section VIII-Control Measures. Isolate spill area, provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

*Waste disposal method:*

Dispose of in accordance with state, local, and federal regulations.

*Hazard Label Information:*

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

SECTION VIII - CONTROL MEASURES

*Protective Equipment Summary (Hazard Label Information):*

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact, goggles or face shield.

*Ventilation:*

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Recommended.

*Work/Hygienic/Maintenance Practices:*

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established