

Plasmaterials, Inc.
 2268 Research Drive
 Livermore, CA 94550
 Ph: (925) 447-4030 Fx: (925) 447-4031
<http://plasmaterials.com>

MATERIAL SAFETY DATA SHEET

Section 1- PRODUCT IDENTIFICATION

COMPOSITION MgF2	PRODUCT NAME Magnesium Fluoride; Magnesium Flux; Aflun; irtran 1; Sellaite
----------------------------	--

Section 2- HAZARDOUS INGREDIENTS

Note: Products under normal conditions do not represent an inhalation, ingestion or contact health hazard.

MATERIAL OR COMPONENT	CAS NUMBER	WT%	EXPOSURE LIMITS	
			OSHA PEL (Mg/M3)	ACGIH TLV(MG/M3)
Magnesium Fluoride	7783-40-6	0.0-100.0	2.5mg(F)/m³	2.5mg(F)/m³

Section 3- PHYSICAL DATA

MATERIAL IS (AT NORMAL CONDITIONS) <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other	APPEARANCE AND ODOR White powder or pieces, no odor
MELTING POINT (BASE METAL) 1396.0 ° C	SPECIFIC GRAVITY 2.9-3.2gm/cc

Section 4- FIRE AND EXPLOSION

Flash Point (Method Used)	Flammable Limits	LEL	UEL
N/A	Non Flammable	N.A.	N.A.
EXTINGUISHING MEDIA Use suitable extinguishing media for surrounding materials and type of fire.			
SPECIAL FIRED FIGHTING PROCEDURES Wear a full face, self-contained breathing apparatus and 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 5- REACTIVITY DATA	
STABILITY Stable	INCOMPATIBILITY (MATERIALS TO AVOID) Strong Acids
CONDITIONS TO AVOID None	
HAZARDOUS DECOMPOSITION PRODUCTS Fumes of fluorine and magnesium oxide	

Section 6- HEALTH HAZARD GUIDE	
MAJOR EXPOSURE HAZARD	
<input type="checkbox"/> Inhalation <input type="checkbox"/> Skin <input type="checkbox"/> Skin Absorption <input type="checkbox"/> Eye Contact <input type="checkbox"/> Ingestion	
EFFECTS OF OVEREXPOSURE	
<p>To the best of our knowledge the chemical, physical and toxicological properties of magnesium fluoride have not been thoroughly investigated and recorded.</p> <p>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. (Sax, Dangerous Properties of Industrial Materials, eighth edition)</p> <p>Inorganic fluorides are generally highly irritating and toxic. Chronic fluorine poisoning, or "fluorosis", occurs among miners of cryolite, and consists of sclerosis of the bones, caused 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 osteomalacia. Large doses can cause very severe nausea, vomiting, diarrhea, aggravated attacks of asthma and severe bone changes, making normal movements painful. Some signs of pulmonary fibrosis are noted. Some enzyme system effects are reported. Irritants of the eyes, skin and mucous membranes. Loss of weight, anorexia, anemia, wasting and cachexia and dental defects are among the common findings in chronic fluorine poisoning. There may be an eosinophilia and impairment of growth in young workers. Symptoms of intoxication include gastric, intestinal, circulatory, respiratory and nervous complaints and rashes. (Sax, Dangerous Properties of Industrial Materials, eighth edition)</p> <p>INHALATION: <u>ACUTE:</u> May cause irritation to the respiratory tract and mucous membrane, asthma attacks, excessive salivation, thirst, sweating, vomiting, colic diarrhea and lung granulomas. <u>CHRONIC:</u> May cause fluorosis, pulmonary fibrosis and severe bone changes.</p> <p>SKIN CONTACT: <u>ACUTE:</u> May cause irritation, rashes and skin granulomas. <u>CHRONIC:</u> May cause dermatitis.</p> <p>EYE CONTACT: <u>ACUTE:</u> May cause irritation. <u>CHRONIC:</u> None recorded</p> <p>INGESTION: <u>ACUTE:</u> Moderately toxic by ingestion. May cause gastrointestinal irritation, severe nausea, vomiting, diarrhea, dehydration and thirst, muscle weakness, lethargy, cramp-like pains and central nervous system depression. <u>CHRONIC:</u> May affect the circulatory, enzyme and nervous system.</p> <p>TARGET ORGANS: May affect the skeleton, kidneys, central nervous system, respiratory system, skin and eyes.</p> <p>CARCINOGENICITY: NTP? N IARC Monographs? N OSHA Regulated? N</p> <p><u>SIGNS AND SYMPTOMS OF EXPOSURE:</u></p> <p>INHALATION: May cause coughing, burning sensation, excessive salivation, vomiting, thirst, sweating, colic and diarrhea. Fibrosis may cause: sclerosis of the bones, calcification of ligaments, mottled teeth, osteosclerosis, osteomalacia, loss of weight, anorexia, anemia, wasting, cachexia and dental defects.</p> <p>INGESTIONS: May cause nausea, vomiting, diarrhea, abdominal burning, cramp-like pain, a stiff spine, calcification of ligaments of the ribs and pelvis.</p>	

SKIN: May cause redness, itching and burning
EYE: May cause redness, itching, burning and watering
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Can cause or aggravate attacks of asthma.

EMERGENCY & FIRST AID PROCEDURES

INHALATION: Remove from exposed area to fresh air immediately; keep warm and quiet; give oxygen if breathing is difficult. Seek medical attention.

SKIN CONTACT: Remove contaminated clothing; brush material off skin; wash affected area with soap and large amounts of water until no evidence of the chemical remains. Seek medical attention.

EYE CONTACT: Flush eyes with lukewarm water for fifteen minutes. Seek medical attention.

INGESTION: Give 1-2 cups of milk or water and induce vomiting. Seek medical attention.

Never induce vomiting or give anything by mouth to an unconscious person.

Section 7- SPILL OR LEAK PROCEDURES

SPILL OR LEAK PROCEDURES

Wear a self-contained breathing apparatus and full protective clothing. Isolate the area where the spill occurred and insure proper ventilation if available. Vacuum up the 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 METHODS

Observe all federal, state and local regulations when storing or disposing of this substance.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Hazard Label Information: Store in cool, dry area; Store in tightly sealed container; Wash thoroughly after handling.

Section 8- SPECIAL PROTECTION

RESPIRATORY

Wear NIOSH/MSHA-approved respirator.

VENTILATION

Local exhaust: To maintain concentration at or below PEL, TLV. Mechanical (General) recommended.

EYE PROTECTION & PROTECTIVE CLOTHING

Wear Safety glasses for eyes. Wear neoprene gloves on hands. Wear protective clothing to prevent contamination of skin and clothes.

WORK/HYGIENIC/MAINTENANCE PRACTICES

Implement engineering and work place 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 and smoking. Do not blow dust off clothing or skin with compressed air.

Section 9- SPECIAL PRECAUTIONS

Some of the chemicals listed herein are research or experimental substances which may be toxic, as defined by various governmental regulations. In accordance with Environmental Protection Agency regulations and the Toxic Substance Control Act (TSCA), these materials should only be handled by, or under the direct supervision of, a "technically qualified individual", as defined in 40 CFR 710.2(aa).

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulations are subject to change, and the conditions of handling and use or misuse are beyond our control, Plasmaterials, Inc. makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein, and disclaims all liability for reliance thereon. Users should satisfy themselves that they have all current data relevant to their particular use.

The information in this MSDS was obtained from sources, which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.