MATERIAL SAFETY DATA SHEET
OSHA HAZARD COMMUNICATION RULE

DATE OF LAST REVISION: 02-13-97

CHEMICAL IDENTITY

LABEL IDENTITY
CHEMICAL NAME/SYNONYMS
FORMULA
CHEMICAL FAMILY
CALCULATED MOLECULAR WEIGHT
CAS REGISTRY NUMBER
HAZARDOUS INGREDIENTS

MAGNESIUM FLUORIDE
Sellaite, Afluon, Magnesium Difluoride
MgF2
METAL HALIDE
62.308
7783-40-6, LISTED IN THE TSCA INVENTORY
MAGNESIUM FLUORIDE

(all magnesium materials may include typically 0.1-1% calcium unless otherwise specified)

PHYSICAL AND CHEMICAL PROPERTIES

COLOR, FORM AND ODOR
BOILING POINT (°C)
DENSITY (gm/cc)
VAPOR PRESSURE @ 20°
% VOLATILE BY VOLUME (%)
REACTION WITH WATER
EVAPORATION RATE (H2O=1)
SOLUBILITY IN WATER
MELTING POINT (°C)

White powder/pieces, odorless
2239
2.9 - 3.2
NA
NA
None
NA
Soluable
1396

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT
AUTOIGNITION TEMPERATURE (°C)
FLAMMABILITY
EXTINGUISHING MEDIA

NA
NA
Non-flammable
Use suitable extinguishing media for
Surrounding materials and type of fire

SPECIAL FIRE FIGHTING PROCEDURES
UNUSUAL FIRE & EXPLOSION HAZARDS

Wear a self-contained breathing apparatus
and full protective clothing
Material may emit toxic fumes of Mg and F if involved in a fire
HEALTH HAZARD INFORMATION

TOXICITY DATA
- orl-guinea pig LDLo: 1000mg/kg
- SC: guinea pig MLD = 3000 mg/kg

HMIS RATING:
- HEALTH: 2
- FLAMMABILITY: 0
- REACTIVITY: 0
- PERSONAL PROTECTION: F

ROUTES OF ENTRY
- INHALATION: Yes
- SKIN: Yes
- EYES: Yes
- INGESTION: Yes

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Respiratory, skin disorders

EFFECTS OF OVEREXPOSURE (acute and chronic):
- INHALATION: respiratory tract irritant. Sneezing, coughing, difficulty breathing and pulmonary edema possible. Can cause or aggravate attacks of asthma. Some signs of pulmonary fibrosis are possible. Mucous membrane irritant.
- DERMAL: irritation, redness, inflammation possible, risk of serious injury.
- EYE: irritation, redness, watering, inflammation possible, risk of serious injury.
- OTHER: ***please see attached sheet***

CARCINOGENICITY: none
NTP: no
IARC MONOGRAPHS: no
OSHA REGULATE: no

EMERGENCY FIRST AID PROCEDURES:
****SEEK MEDICAL ATTENTION FOR ALL SITUATIONS MENTIONED BELOW****
- INGESTION: Administer 1-2 glasses of milk/water, induce vomiting
- INHALATION: Remove to fresh air, administer oxygen if breathing is difficult
- SKIN CONTACT: brush material off skin and wash affected area with soap and water
- EYE CONTACT: Flush eyes for at least 15 minutes with lukewarm water

REACTIVITY DATA

CONDITIONS CONTRIBUTING TO UNSTABILITY
None

INCOMPATIBILITY (MATERIALS TO AVOID)
- Acids and fumes
- When heated to decomposition, it
- Emits toxic fumes of Fluorine and
- Magnesium oxide

HAZARDOUS DECOMPOSITION PRODUCTS
- Will Not Occur
- Heat, incompatible materials
SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: wear a self-contained breathing apparatus and full protective clothing. Isolate the area where the spill occurred and insure that proper ventilation is available. Vacuum up spill using a high efficiency unit and place in a container for proper disposal. Take care not raise dust.

WASTE DISPOSAL METHOD:
Consult federal, state and local regulations for proper disposal.

SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION
Wear NIOSH-approved dust-mist-fume cartridge respirator

LOCAL EXHAUST
Maintain exposure below TLV/PEL

MECHANICAL (general)
Recommended

SPECIAL
Nonr

OTHER
NA

PROTECTIVE GLOVES
Impervious Gloves

EYE PROTECTION
Safety glasses with side shields

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:
Store in tightly closed containers in a cool, dry place. Wash hands and face thoroughly after handling and before eating.

TRANSPORTATION REQUIREMENTS

DOT CLASS: Not Classified
UN NUMBER: NC
IMCO CLASS: NC
OTHER: ND

PRECAUTIONARY LABELING
NONE

THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE THE CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL, ANGSTROM SCIENCES MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR THE RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.

NA= NOT APPLICABLE
ND= NO DATA FOUND
OTHER EFFECTS OF OVEREXPOSURE:

The inhalation of fumes of freshly sublimed magnesium oxide may cause metal fume fever. 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. The condition has been called a “chemical gas gangrene.” Gaseous blebs may develop within 24 hours of the injury. The inflammatory response is marked at the site of injury and there may be signs of lymphagitis. The lesion is very slow to heal.

The toxicity of magnesium compounds is usually that of the anion.

Inorganic fluorides are generally highly irritating and toxic. Acute effects resulting from exposure to fluorine compounds are due to hydrogen fluoride, chronic fluorine poisoning, or “fluorosis,” occurs among miners of cryolite, and consists of a sclerosis of the bones, caused by fixation of the calcium by the fluorine. These 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, abdominal burning and cramp-like pains. Can cause severe bone changes, making normal movements painful. Some enzyme systems effects are reported. Also 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 skin rashes. Common air contaminants.