西亚试剂® Xiya Reagent 说明书

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化 学 品 安 全 技 术 说 明 书

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MSDS标题

MAGNESIUM FLUOROSILICATE MSDS报告

产品标题

六氟硅酸镁

CAS号

16949-65-8

化学品及企业标识

PRODUCT NAME

MAGNESIUM FLUOROSILICATE

NFPA

Flammability	0
Toxicity	3
Body Contact	2
Reactivity	0
Chronic	2

SCALE: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

PRODUCT USE

Used in manufacture of ceramics and in the production of concrete hardeners, water-proofing and moth- proofing agents, as a laundry sour and in magnesium casting.

SYNONYMS

F6-Si.Mg.6H2O, "silicate (2-), hexafluoro-, magnesium", "Elava SM", "magnesium hexafluorosilicate", "magnesium silicofluoride"

CANADIAN WHMIS SYMBOLS

EMERGENCY OVERVIEW

RISK

Toxic if swallowed.
Irritating to eyes, respiratory system and skin.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual. Fluoride causes severe loss of calcium in the blood, with symptoms appearing several hours later including painful and rigid muscle contractions of the limbs. Cardiovascular collapse can occur and may cause death with increased heart rate and other heart rhythm irregularities. The brain and kidneys may be affected. Other toxic effects include headache, increased saliva output, jerking of the eyeball and dilated pupils, lethargy, stupor, coma and rarely, convulsions. Ingestion may cause excessive salivation, nausea, vomiting, diarrhea, abdominal pain, diarrhoea, shortness of breath, difficulty in speaking, thirst, weakness of pulse, disturbed colour vision, muscular weakness, tremors, convulsions, weak pulse, loss of consciousness and death. Kidney injury and bleeding from injury may occur. There have occasionally been cases of accidental or suicidal poisonings by ingestion of known or unknown amounts of fluosilicate (or silicofluorides), for the most part, sodium fluosilicate, sometimes magnesium, zinc or other fluosilicates. Acute poisonings with salts of fluosilicic acid are relatively uncommon. A lethal dose for sodium fluorosilicate is approximately 1-4 g. Pathology is typical of fluoride poisoning. The main symptoms: headache, gastro-intestinal irritant, corrosion of gastric mucosa, nausea, vomiting, abdominal pain, diarrhoea, hypocalcaemia, convulsions, shock, coma and death, which may occur within 15 min (the most often within 1 to 14 hrs) due to respiratory failure or cardiac arrest. Ingestion of sodium hexafluosilicate has produced acute respiratory failure, ventricular tachycardia and fibrillation, hypocalcaemia, facial numbness, diarrhea, tachycardia, enlarged liver, and cramps of the palms, feet, and legs. Mice given sodium hexafluosilicate (70 mg/kg; 0.37 mmol/kg) exhibited toxic effects in the peripheral nerves, sensation, and in behavior. In rats, an oral dose (248 mg/kg; 1.32 mmol/kg) administered

intermittently for one month produced toxic effects in the kidney, ureter, and/or bladder, as well as musculoskeletal and biochemical effects. Magnesium salts are generally absorbed so slowly that oral administration causes few toxic effects, as the dose is readily expelled via the bowel. If evacuation fails, mucosal irritation and absorption may result. This can result in nervous system depression, heart effects, loss of reflexes and death due to paralysis of breathing. These usually do not occur unless the bowel or kidneys are damaged.

EYE

This material can cause eye irritation and damage in some persons. Fluosilicates may produce severe irritation of the eyes; effects may be delayed.

SKIN

This material can cause inflammation of the skin oncontact in some persons. The material may accentuate any pre-existing dermatitis condition. Local lesions may arise as a result of contact with fluosilicates. Contact with skin causes rash, redness, and burning, sometimes followed by ulcer formation. Sodium hexafluosilicate is pustulogen in animal tests. When rabbits received topical application of a 1, 5, 10, and 25% solution of sodium hexafluorosilicate in petroleum, pustules occurred on normal skin only with the high concentration, while all concentrations produced pustules on stabbed skin The intact and abraded skin of New Zealand white rabbits, were exposed to 0.5 m (4 mol) sodium hexafluosilicate for 1, 24, or 72 h Severe erythema and edema were observed, indicating the material to be a primary irritant. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual. Inhalation of small amounts of dust or fume over long periods may causepoisoning. Inhalation of fluosilicate-containing dusts or mists may cause severe mucous membrane irritation and burns. Effects may not be immediately apparent, especially with diluted solutions. Symptoms of exposure include coughing, sneezing, tightness of chest, difficulty in breathing. Excessive inhalation may cause severe pulmonary inflammation which may be fatal. Acute effects of fluoride inhalation include irritation of nose and throat, coughing and chest discomfort. A single acute over-exposure may even cause nose bleed. Pre-existing respiratory conditions such as emphysema, bronchitis may be aggravated by exposure. Occupational asthma may result from exposure.

CHRONIC HEALTH EFFECTS

Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Chronic over-exposure to fluosilicates may result in fluorosis. Extended exposure to inorganic fluorides causes fluorosis, which includes signs of joint pain and stiffness, tooth discoloration, nausea and vomiting, loss of appetite, diarrhea or constipation, weight loss, anemia, weakness and general unwellness. There may also be frequent urination and thirst. Redness, itchiness and allergy-like inflammation of the skin and mouth cavity can occur. The central nervous system may be involved. Chronic inhalation exposure may result in nasal ulceration and/orperforation of nasal septum. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray.