

FERRIC SULPHATE, HYDRATED

PRODUCT IDENTIFICATION

Chemical Name and Synonyms: Ferric sulphate hydrated
Chemical Family: Metal salt
Chemical Formula: $\text{Fe}_2(\text{SO}_4)_3 \cdot x\text{H}_2\text{O}$
Product Use: Laboratory reagent
Manufacturers Name and Address: Caledon Laboratories Ltd. 40
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HAZARDOUS INGREDIENTS OF MATERIALS

Ingredients, %, TLV Units, CAS No: Ferric sulphate, > 70, 1 mg/m³
(as Fe), 10028-22-5

PHYSICAL DATA

Physical State: Solid
Odour and Appearance: Tan to light greenish-yellow powder or
rhombic crystals, odourless
Odour Threshold (ppm): Not applicable.
Vapour Pressure (mm Hg): Not available.
Vapour Density (Air = 1): Not applicable.
Evaporation Rate: Not applicable.
Boiling Point (degrees C): Not available.
Melting Point (degrees C): 480 °C (decomposes)
pH: 1.02 (10 %, aqueous)
Specific Gravity: 3.097 (anhydrous)
Coefficient of Water/Oil distribution: Not available.

SHIPPING DESCRIPTION

UN: Not regulated.
T.D.G. Class: Not regulated.
Pkg. Group: Not regulated.

REACTIVITY DATA

Incompatibility with other substances: Avoid contact with mineral
acids, oxidizing agents. Corrosive to copper and copper alloys, mild
steel and galvanized steel.
Reactivity: Avoid excessive heat, generation of dust, all incompatible
materials, exposure to air and moisture.

FIRE AND EXPLOSION DATA

Extinguishing Media: Use an extinguisher appropriate to the
surrounding material that is burning. Move containers from fire area if
it can be done without risk. Fight fire from a safe distance and from
upwind. Firefighters must wear protective equipment and clothing
sufficient to prevent inhalation of fumes and contact with skin and
eyes.
Flash Point (Method Used): Not applicable.
Autoignition Temperature: Not applicable.
Upper Flammable Limit (% by volume): Not applicable.
Lower Flammable Limit (% by volume): Not applicable.
Hazardous Combustion Products: Oxides of sulphur, iron
Sensitivity to Impact: None identified.

TOXICOLOGICAL PROPERTIES AND HEALTH DATA

Toxicological Data:
LD50: (ipr, mouse) 168 mg/kg

LC50: Not available.

Effects of Acute Exposure to Product:

Inhaled: Irritating to mucous membranes. May cause burning
sensation, coughing, wheezing, laryngitis, shortness of breath,
nausea and vomiting. Severity of effects depends on the
concentration of dust or mist, and the duration of exposure.

In contact with skin: Dust or solutions may cause irritation with
redness and pain, and discolouration. Concentrated solutions may
be corrosive, causing inflammation, blistering, skin damage. No
information available on absorption.

In contact with eyes: Dust or solutions may cause irritation with
redness, tearing, and pain. Severity of effects depends on the
concentration of dust or mist, and the duration of exposure.

Ingested: Toxic; causes severe gastrointestinal irritation, nausea and
vomiting, with in 10 to 60 minutes after ingestion, diarrhea,
dehydration, shock, pallor, rapid, weak pulse, low blood pressure,
cyanosis, drowsiness, dilated pupils, eventual coma and death.
Chronic ingestion of small amounts can cause iron poisoning with
black stool, pink urine discolouration, liver damage, coma, and even
death. Symptoms may be delayed for two to three days.

Effects of Chronic Exposure to Product: Pink urine discoloration is
a strong indicator of iron poisoning. Liver damage, coma, and death
from iron poisoning has been recorded. Persons with
pre-existing skin or eye disorders, or impaired liver, kidney or
respiratory functions may be more susceptible to the effects of this
substance.

Carcinogenicity: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Synergistic Products: None known.

PREVENTIVE MEASURES

Engineering Controls: Local exhaust ventilation recommended.

Respiratory Protection: Dust/mist mask. Up to 10x TLV, or the
maximum use specified by the respirator supplier, whichever is
lowest, NIOSH/MSHA approved half-face dust/mist filter respirator.
Up to 50x TLV, or the maximum use specified by the respirator
supplier, whichever is lowest - NIOSH/MSHA approved full
face-piece dust/mist filter respirator. Higher or unknown
concentrations, or for fire or spill conditions, self-contained breathing
apparatus, or full face-piece, positive-pressure supplied-air
respirator.

Skin Protection: Rubber or plastic gloves. Plastic apron, sleeves and
boots as required to prevent contact.

Other Personal Protective Equipment: Safety shower and eye wash
fountain readily available in work area.

Leak and Spill Procedure: Ventilate area. Evacuate area. Cleanup personnel must be thoroughly trained in the handling of hazardous materials, and must wear protective equipment and clothing sufficient to prevent any inhalation of fumes and contact with skin, eyes, or clothing. Stop leak if you can do it without risk. Do not touch spilled material. Mix with inert adsorbent and collect in suitable containers for reclamation or disposal. Prevent from entering sewers or waterways. Contaminated absorbent may pose the same hazards as the chemical; treat with caution. Flush area of spill thoroughly with copious amounts of running water.

Waste Disposal: Follow all federal, provincial and local regulations.

Handling Procedures and Equipment: Corrosive. Workers using this chemical should be properly trained in its hazards and its safe use, and should wear appropriate protective equipment and clothing. Keep work areas free of incompatible materials. Use the smallest amount possible for the purpose in a designated area with adequate ventilation. Avoid generating dusts. AVOID ALL CONTACT AND INHALATION. Wash thoroughly after working with this chemical. Keep containers closed when not in use.

Storage Requirements: Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight. Store away from incompatible materials. Keep containers tightly closed when not in use and when empty. Protect from exposure to air and moisture. Protect from damage, and inspect frequently for signs of leaking.

FIRST AID MEASURES

Specific Measures:

Eyes: Flush thoroughly with gently running water for at least fifteen (15) minutes, holding eyelids open while flushing. Take care not to flush contaminated water into the unaffected eye. Get medical attention.

Skin: Remove contaminated clothing. Wash skin with plenty of running water until all traces of chemical are removed. If irritation develops get medical attention.

Inhalation: Remove to fresh air. Give oxygen or get medical attention for any breathing difficulty.

Ingestion: If victim is alert and not convulsing, rinse mouth thoroughly with water, give 2 to 4 glasses of water to drink to dilute, and induce vomiting by sticking a finger down the throat, or by giving syrup of ipecac. Get medical attention. If spontaneous vomiting occurs, rinse mouth thoroughly with water, and give 2 to 4 more glasses of water to drink. Onset of symptoms may be delayed; if victim feels unwell during the next 24 hours, get medical attention.

REFERENCES USED

Budavari: The Merck Index, 12th ed., 1997

CCINFO disc: MSDSs, May 2007

Sax: Dangerous Properties of Industrial Materials, 5th ed., 1979

Sax, Lewis: Hawleys Condensed Chemical Dictionary, 11th ed., 1987

Suppliers Material Safety Data Sheets:

ADDITIONAL INFORMATION

Date Issued: 10-Jun-91

Revision: May 2013

Proposed WHMIS Designation: D2B; E

Prepared by: Caledon Laboratories Ltd. (905) 877-0101

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