Material Safety Data Sheet

Chromium (III) Nitrate Nonahydrate
MSDS# 04965

Section 1 - Chemical Product and Company Identification

MSDS Name: Chromium (III) Nitrate Nonahydrate
Catalog Numbers: C/5560/53
Synonyms: Chromic Nitrate Nonahydrate; Nitric Acid Chromium Salt Nonahydrate.
Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG
For information in Europe, call: (01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#: 7789-02-8
Chemical Name: CHROMIUM (III) NITRATE NONAHYDRATE
%: 100
EINECS#: unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful if swallowed. Contact with combustible material may cause fire.

Potential Health Effects
Eye:
  May cause eye irritation.
Skin:
  May cause skin irritation.
Ingestion:
  Harmful if swallowed. May cause irritation of the digestive tract.
Inhalation:
  May cause respiratory tract irritation.
Chronic:
  May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath
  shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death.
Effects
  may be delayed.

Section 4 - First Aid Measures

Eyes:
  Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.

Skin:
  Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Destroy contaminated shoes.
Ingestion:
Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:
Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:
For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood.

Antidote:
Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

Section 5 - Fire Fighting Measures

General Information:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water with caution and in flooding amounts. Some oxidizers may react explosively with hydrocarbons(fuel). May accelerate burning if involved in a fire. Containers may explode when heated.

Extinguishing Media:
Use extinguishing media most appropriate for the surrounding fire. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out. For small fires, do NOT use dry chemicals, carbon dioxide, halon or foams. USE WATER ONLY. For large fires flood fire with water from a distance.

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Do not use combustible materials such as paper towels to clean up spill.

Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Do not get on skin or in eyes. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage:
Keep away from heat, sparks, and flame. Do not store near combustible materials. Store in a cool, dry place. Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits
CAS# 7789-02-8:

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:
Wear appropriate gloves to prevent skin exposure.

Clothing:
Wear a chemical apron. Wear appropriate clothing to prevent skin exposure.

Respirators:
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Color: purple
Odor: odorless
pH: Not available
Vapor Pressure: Negligible.
Viscosity: Not available
Boiling Point: 212°F decomposes
Freezing/Melting Point: 140 deg C (284.00 F)
Autoignition Temperature: Not available.
Flash Point: Not available
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
Decomposition Temperature: Not available
Solubility in water: Soluble in water.
Specific Gravity/Density: 1.80
Molecular Formula: Cr(NO3)3.9H2O
Molecular Weight: 400.1313

Section 10 - Stability and Reactivity

Chemical Stability:
Stable under normal temperatures and pressures.

Conditions to Avoid:
Incompatible materials, ignition sources, dust generation, excess heat, combustible materials, reducing agents.

Incompatibilities with Other Materials
Reducing agents.

Hazardous Decomposition Products
Nitrogen oxides, chromium dioxide.

Hazardous Polymerization
Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 7789-02-8: GB6300000
LD50/LC50: RTECS: CAS# 7789-02-8: Oral, rat: LD50 = 3250 mg/kg.
Carcinogenicity: CHROMIUM (III) NITRATE NONAHYDRATE - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information
Not available

Section 13 - Disposal Considerations
Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information
IATA
Shipping Name: CHROMIUM NITRATE
Hazard Class: 5.1
UN Number: 2720
Packing Group: III
IMO
Shipping Name: CHROMIUM NITRATE
Hazard Class: 5.1
UN Number: 2720
Packing Group: III
RID/ADR
Shipping Name: CHROMIUM NITRATE
Hazard Class: 5.1
UN Number: 2720
Packing Group: III

Section 15 - Regulatory Information
European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: XN O
Risk Phrases: R 22 Harmful if swallowed. R 8 Contact with combustible material may cause fire.
Safety Phrases: S 17 Keep away from combustible material.

WGK (Water Danger/Protection)
CAS# 7789-02-8: 2
Canada
US Federal
TSCA
CAS# 7789-02-8 is not listed on the TSCA Inventory. It is for research and development use only.

Section 16 - Other Information
MSDS Creation Date: 5/26/1998
Revision #6 Date
5/16/2007
Revisions were made in Sections:
2, 3, 15
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.