

Material Safety Data Sheet

Chromium (III) Nitrate Nonahydrate

ACC# 04965

Section 1 - Chemical Product and Company Identification

MSDS Name: Chromium (III) Nitrate Nonahydrate

Catalog Numbers: S79966, C331 100, C331 500, C331-100, C331-500, C331100, C331500, S76785

Synonyms: Chromic Nitrate Nonahydrate; Nitric Acid Chromium Salt Nonahydrate.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7789-02-8	CHROMIUM (III) NITRATE NONAHYDRATE	100	unlisted

Hazard Symbols: XI O

Risk Phrases: 36/38 8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: purple solid. **Danger!** Strong oxidizer. Contact with other material may cause a fire. May cause severe eye, skin and respiratory tract irritation with possible burns. May cause methemoglobinemia.

Target Organs: Blood, respiratory system, blood forming organs.

Potential Health Effects

Eye: Causes eye irritation. May cause conjunctivitis. May cause permanent corneal opacification.

Skin: May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause severe irritation and possible burns.

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. Methemoglobinemia is characterized by dizziness, drowsiness, headache, breath shortness, cyanosis with bluish skin, rapid heart rate and chocolate-brown colored blood. Overexposure may cause methemoglobinemia. May cause nausea, vomiting, and diarrhea, possibly with

blood.

Inhalation: Causes respiratory tract irritation. May cause methemoglobinemia, cyanosis, convulsions, tachycardia, dyspnea (labored breathing), and death. May cause an allergic response. Methemoglobinemia is characterized by dizziness, drowsiness, headache, breath shortness, cyanosis with bluish skin, rapid heart rate and chocolate-brown blood. May cause acute pulmonary edema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by edema.

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 soap and 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 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 methemoglobinemia 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 combustible materials may cause a 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.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 1; Special Hazard: OX

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

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
CHROMIUM (III) NITRATE NONAHYDRATE	none listed	none listed	none listed

OSHA Vacated PELs: CHROMIUM (III) NITRATE NONAHYDRATE: No OSHA Vacated PELs are listed for this chemical.

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 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: purple

Odor: odorless
pH: Not available.
Vapor Pressure: Negligible.
Vapor Density: Not available.
Evaporation Rate:Not available.
Viscosity: Not available.
Boiling Point: 212F decomposes
Freezing/Melting Point:140 deg C
Decomposition Temperature:212 deg F
Solubility: 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:
CAS# 7789-02-8:
Oral, rat: LD50 = 3250 mg/kg;<br.

Carcinogenicity:
CAS# 7789-02-8:
ACGIH: A4 - Not Classifiable as a Human Carcinogen (listed as Chromium).
IARC: Group 3 carcinogen (listed as Chromium).
Epidemiology: No information found.
Teratogenicity: No information found.
Reproductive Effects: No information found.
Neurotoxicity: No information found.
Mutagenicity: No information found.
Other Studies: See actual entry in RTECS for complete information.</br.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	NITRATES, INORGANIC, N.O.S.				CHROMIC NITRATE
Hazard Class:	5.1				5.1
UN Number:	UN1477				UN2720
Packing Group:	II				III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7789-02-8 is not listed on the TSCA inventory. It is for research and development use only.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)

None of the chemicals in this material have an RQ.

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7789-02-8: acute, chronic, flammable.

Section 313

This material contains CHROMIUM (III) NITRATE NONAHYDRATE (listed as Chromium), 100%, (CAS# 7789-02-8) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7789-02-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

XI O

Risk Phrases:

R 36/38 Irritating to eyes and skin.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 28 After contact with skin, wash immediately with...

S 3 Keep in a cool place.

WGK (Water Danger/Protection)

CAS# 7789-02-8: 2

Canada - DSL/NDSL

None of the chemicals in this product are listed on the DSL or NDSL list. **Canada - WHMIS**
This product has a WHMIS classification of C, D2B.

Canadian Ingredient Disclosure List

CAS# 7789-02-8 (listed as Chromium) is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 7789-02-8 (listed as chromium): OEL-ARAB Republic of Egypt:TWA 0.

05 mg/m³ OEL-AUSTRALIA:TWA 0.05 mg/m³ OEL-BELGIUM:TWA 0.5 mg/m³ OEL-DENMARK:TWA 0.5 mg/m³ OEL-FINLAND:TWA 0.01 mg/m³ OEL-FRANCE:TWA 0.5 mg/m³ OEL-JAPAN:TWA 0.5 mg/m³ OEL-THE NETHERLANDS:TWA 0.5 mg/m³ OEL-THE PHILIPPINES:TWA 1 mg/m³ OEL-SWEDEN:TWA 0.5 mg/m³ OEL-UNITED KINGDOM:TWA 0.5 mg/m³ OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGI TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 5/26/1998

Revision #3 Date: 8/02/2000

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