

SAFETY DATA SHEET

Creation Date 05-October-2010

Revision Date 19-July-2023

Revision Number 6

1. Identification

Product Name Chromium(III) nitrate nonahydrate

Cat No. : AC437100000; AC437100050

CAS-No 7789-02-8
Synonyms Chromic nitrate

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Importer/Distributor

Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Manufacturer

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

WHMIS 2015 Classification

Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

| | |
|--|------------|
| Oxidizing solids | Category 3 |
| Acute Inhalation Toxicity | Category 4 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Skin Sensitization | Category 1 |

Label Elements

Signal Word

Warning

Hazard Statements

May intensify fire; oxidizer

Harmful if inhaled

May cause an allergic skin reaction
Causes serious eye irritation



Precautionary Statements

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep/Store away from clothing/combustible materials
Take any precaution to avoid mixing with combustibles
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves/protective clothing/eye protection/face protection

Response

IF ON SKIN: Wash with plenty of soap and water

IF INHALED: Remove person to fresh air and keep comfortable for breathing

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Call a POISON CENTER/ doctor if you feel unwell

If skin irritation or rash occurs: Get medical advice/attention

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Take off contaminated clothing and wash it before reuse

Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Toxic to aquatic life with long lasting effects

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|-----------------------------------|------------|----------|
| Chromium(III) nitrate nonahydrate | 7789-02-8 | >95 |
| Chromium(III) nitrate | 13548-38-4 | - |

4. First-aid measures

General Advice

If symptoms persist, call a physician.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

| | |
|--|---|
| Most important symptoms/effects | None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | No information available |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| Upper | No data available |
| Lower | No data available |
| Oxidizing Properties | Oxidizer |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
2

Flammability
1

Instability
2

Physical hazards
OX

6. Accidental release measures

| | |
|---|--|
| Personal Precautions | Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. |
| Environmental Precautions | Should not be released into the environment. |
| Methods for Containment and Clean Up | Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal. |

7. Handling and storage

| | |
|-----------------|--|
| Handling | Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. |
| Storage. | Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials. Keep away from heat, sparks and flame. Flammables area. Incompatible Materials. Strong oxidizing agents. Reducing Agent. Metals. Strong reducing agents. Combustible material. |

8. Exposure controls / personal protection

Exposure Guidelines

| Component | Alberta | British Columbia | Ontario TWAEV | Quebec | ACGIH TLV | OSHA PEL | NIOSH |
|-----------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------|--------------------------------------|--|
| Chromium(III) nitrate nonahydrate | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ | | (Vacated) TWA: 0.5 mg/m ³ | IDLH: 25 mg/m ³ TWA: 0.5 mg/m ³ |
| Chromium(III) nitrate | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ | | (Vacated) TWA: 0.5 mg/m ³ | IDLH: 25 mg/m ³ TWA: 0.5 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location.

Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment**Eye Protection**

Wear safety glasses with side shields (or goggles) Goggles

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | Glove comments |
|----------------|-------------------|-----------------|------------------------|
| Nitrile rubber | See manufacturers | - | Splash protection only |
| Viton (R) | recommendations | | |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified 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.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Recommended Filter type: low boiling organic solvent Type AX Brown conforming to EN371 Type A Brown

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

9. Physical and chemical properties

| | |
|----------------------------|--------------------------|
| Physical State | Solid |
| Appearance | Black |
| Odor | Odorless |
| Odor Threshold | No information available |
| pH | 2.0-3.0 5% aq.sol |
| Melting Point/Range | 60 °C / 140 °F |
| Boiling Point/Range | No information available |
| Flash Point | No information available |
| Evaporation Rate | Not applicable |

| | |
|--|--------------------------|
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | Not applicable |
| Specific Gravity | No information available |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | 100 °C |
| Viscosity | Not applicable |
| Molecular Formula | Cr N3 O9 . 9 H2 O |
| Molecular Weight | 400.14 |

10. Stability and reactivity

| | |
|----------------------------------|---|
| Reactive Hazard | Yes |
| Stability | Oxidizer: Contact with combustible/organic material may cause fire. |
| Conditions to Avoid | Incompatible products. Excess heat. Combustible material. Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition. |
| Incompatible Materials | Strong oxidizing agents, Reducing Agent, Metals, Strong reducing agents, Combustible material |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO ₂), Nitrogen oxides (NO _x) |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

Product Information

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------------------------------|---------------------------|-------------|-------------------------|
| Chromium(III) nitrate nonahydrate | LD50 = 3250 mg/kg (Rat) | Not listed | Not listed |
| Chromium(III) nitrate | LD50 = 3250 mg/kg (Rat) | Not listed | LC50 < 4.58 mg/l (QSAR) |

Toxicologically Synergistic No information available

Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|-----------------|--|
| Irritation | Irritating to eyes |
| Sensitization | May cause sensitization by skin contact |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|-----------------------------------|------------|------------|------------|------------|------------|------------|
| Chromium(III) nitrate nonahydrate | 7789-02-8 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Chromium(III) nitrate | 13548-38-4 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects No information available

Reproductive Effects No information available.

| | |
|---|---|
| Developmental Effects | No information available. |
| Teratogenicity | No information available. |
| STOT - single exposure | None known |
| STOT - repeated exposure | None known |
| Aspiration hazard | No information available |
| Symptoms / effects, both acute and delayed | Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing |
| Endocrine Disruptor Information | No information available |
| Other Adverse Effects | The toxicological properties have not been fully investigated. |

12. Ecological information

Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|-----------------------|--|--|------------|---|
| Chromium(III) nitrate | ErC50 (96h) = 0.397 mg Cr/l (1.82mg/l Cr(NO ₃) ₃) | LC50 (96h) = 53 mg Cr/l (242.6 mg/l Cr(NO ₃) ₃) | Not listed | EC50 (48h) = 16.8 mg Cr/l to 58.7 mg Cr/l (76.9 to 268.6 mg/l Cr(NO ₃) ₃) |

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

| | |
|-----------------------------|-------------------------------------|
| UN-No | UN2720 |
| Proper Shipping Name | consumer commodity CHROMIUM NITRATE |
| Hazard Class | 5.1 |
| Packing Group | III |

TDG

| | |
|-----------------------------|------------------|
| UN-No | UN2720 |
| Proper Shipping Name | CHROMIUM NITRATE |
| Hazard Class | 5.1 |
| Packing Group | III |

IATA

| | |
|-----------------------------|------------------|
| UN-No | UN2720 |
| Proper Shipping Name | Chromium nitrate |
| Hazard Class | 5.1 |
| Packing Group | III |

IMDG/IMO

| | |
|-----------------------------|------------------|
| UN-No | UN2720 |
| Proper Shipping Name | Chromium nitrate |
| Hazard Class | 5.1 |
| Packing Group | III |

15. Regulatory information

International Inventories

| Component | CAS-No | DSL | NDSL | TSCA | TSCA Inventory notification - Active-Inactive | EINECS | ELINCS | NLP |
|-----------------------------------|------------|-----|------|------|---|-----------|--------|-----|
| Chromium(III) nitrate nonahydrate | 7789-02-8 | - | - | - | - | - | - | - |
| Chromium(III) nitrate | 13548-38-4 | X | - | X | ACTIVE | 236-921-1 | - | - |

| Component | CAS-No | IECSC | KECL | ENCS | ISHL | TCSI | AICS | NZIoC | PICCS |
|-----------------------------------|------------|-------|----------|------|------|------|------|-------|-------|
| Chromium(III) nitrate nonahydrate | 7789-02-8 | X | - | X | X | X | X | X | X |
| Chromium(III) nitrate | 13548-38-4 | X | KE-06019 | X | X | X | X | X | X |

Legend:

X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

| Component | Canada - National Pollutant Release Inventory (NPRI) | Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances | Canada's Chemicals Management Plan (CEPA) |
|-----------------------------------|--|--|---|
| Chromium(III) nitrate nonahydrate | Part 1, Group A Substance | | |
| Chromium(III) nitrate | Part 1, Group A Substance | | |

Other International Regulations

Authorisation/Restrictions according to EU REACH

Not applicable

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | CAS-No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|-----------------------------------|------------|----------------|------------------------------|---------------------------|--|
| Chromium(III) nitrate nonahydrate | 7789-02-8 | Not applicable | Not applicable | Not applicable | Not applicable |
| Chromium(III) nitrate | 13548-38-4 | Not applicable | Not applicable | Not applicable | Not applicable |

| Component | CAS-No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-----------------------------------|------------|---|--|----------------------------|------------------------------------|
| Chromium(III) nitrate nonahydrate | 7789-02-8 | Not applicable | Not applicable | Not applicable | Not applicable |
| Chromium(III) nitrate | 13548-38-4 | Not applicable | Not applicable | Not applicable | Not applicable |

16. Other information

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Revision Summary

This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS