

STRONTIUM NITRATE

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1. Product Identification

Synonyms: Strontium (II) nitrate (1:2); nitric acid, strontium salt

CAS No.: 10042-76-9

Molecular Weight: 212

Chemical Formula: $\text{Sr}(\text{NO}_3)_2$

Product Codes: CHEM-042

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Strontium Nitrate	10042-76-9	100%	Yes

3. Hazards Identification

Emergency Overview

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Life)

Flammability Rating: 0 - None

Reactivity Rating: 3 - Severe (Oxidizer)

Contact Rating: 3 - Severe (Corrosive)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: Yellow (Reactive)

Potential Health Effects

Inhalation:

Irritant to the nasal and respiratory passages due largely to the nitrate radical. Coughing, sneezing and some difficulty in breathing can occur in cases of exceptional dust inhalation. Higher levels may cause a chemical pneumonia.

Ingestion:

Toxicity rating is low (2-3) because strontium salts are poorly absorbed from the digestive system. Large doses may, however, upset the osmotic balance and cause vomiting and diarrhea as well as nitrate irritation.

Skin Contact:

Corrosive. Symptoms of redness, pain, and severe burn can occur.

Eye Contact:

Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns. 4. First Aid Measures

Chronic Exposure:

Repeated exposure has caused damage to heart muscle, lungs, liver, kidneys, and blood-forming organs; and effects the nervous system in animals. Repeated exposure causes strontium nitrate to accumulate in the body and effects can persist after exposure stops.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance. Persons on diets low in calcium may be at greater risk of absorbing more strontium nitrate.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Contact with oxidizable substances may cause extremely violent combustion. Poisonous gases are produced in fire, including oxides of nitrogen.

Explosion:

Strong oxidants may explode when shocked, or if exposed to heat, flame, or friction. Also may act as initiation source for dust or vapor explosions. Sensitive to mechanical impact. Sensitive to static discharge.

Fire Extinguishing Media:

Dry chemical, foam, carbon dioxide, or water spray.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. Keep the substance out of a confined space, such as a sewer, because of the possibility of an explosion.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Avoid storage on wood floors. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Maintain eye wash fountain and quick-drench facilities in work area. Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible.

9. Physical and Chemical Properties

Appearance:

White powder or granules.

Odor:

Odorless.

Solubility:

71 g/100 ml water at 18C

Density:

2.98

pH:

No information found.

% Volatiles by volume @ 21C (70F):

No information found.

Boiling Point:

645C (1193F)

Melting Point:

570C (1058F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Oxides of nitrogen and toxic metal fumes may form when heated to decomposition.

Hazardous Polymerization:

This substance does not polymerize.

Incompatibilities:

Reducing agents, organic compounds, halogens.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Oral rat LD50: 2750 mg/kg.

Ingredient	\ Cancer Lists \		IARC Category
	—NTP Carcinogen—		
	Known	Anticipated	
Strontium Nitrate (10042-76-9)	No	No	None

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: STRONTIUM NITRATE

Hazard Class: 5.1

UN/NA: UN1507

Packing Group: III

Information reported for product/size: 2.5KG

International (Water, I.M.O.)

Proper Shipping Name: STRONTIUM NITRATE

Hazard Class: 5.1

UN/NA: UN1507

Packing Group: III

Information reported for product/size: 2.5KG

15. Regulatory Information

----- \Chemical Inventory Status - Part 1\ -----

Ingredient	TSCA	EC	Japan	Australia
Strontium Nitrate (10042-76-9)	Yes	Yes	Yes	Yes

----- \Chemical Inventory Status - Part 2\ -----

----- Canada -----

Ingredient	Korea	DSL	NDSL	Phil.
Strontium Nitrate (10042-76-9)	Yes	Yes	No	Yes

----- \Federal, State & International Regulations - Part 1\ -----

----- -SARA 302- ----- -SARA 313-----

Ingredient	RQ	TPQ	List	Chemical Catg.
Strontium Nitrate (10042-76-9)	No	No	No	Nitrate Cmpd

----- \Federal, State & International Regulations - Part 2\ -----

----- -RCRA- -TSCA- -----

Ingredient	CERCLA	261.33	8(d)
Strontium Nitrate (10042-76-9)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: 1[T]

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 0 Other: **Oxidizer**

Label Hazard Warning:

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED.

Label Precautions:

Keep from contact with clothing and other combustible materials.

Store in a tightly closed container.

Do not get in eyes, on skin, or on clothing.

Avoid breathing dust.

Use only with adequate ventilation.

Wash thoroughly after handling.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

Product Use:

Laboratory Reagent, Consumer Hobby, Oxidizer and Colorant in Pyrotechnics

Revision Information:

No Changes.

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