SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Revision Date 06/14/2018 Version 1.5

SECTION 1.Identification

Product identifier

Product number	107872
Product name	Strontium nitrate for analysis EMSURE®
CAS-No.	10042-76-9

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for analysis

Details of the supplier of the safety data sheet

Company	Millipore (Canada) Ltd | 109 Woodbine Downs Blvd. Unit 5 | Etobicoke | Ontario M9W 6Y1 | Canada | General Inquiries: +1 800-645-5476 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.

Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Oxidizing solid, Category 1, H271
Serious eye damage, Category 1, H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms

Signal Word
Danger

Hazard Statements
H271 May cause fire or explosion; strong oxidizer.
H318 Causes serious eye damage.

Precautionary Statements
P210 Keep away from heat.

P220 Keep/Store away from clothing/ combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P283 Wear fire/ flame resistant/ retardant clothing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P306 + P360 IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P310 Immediately call a POISON CENTER/doctor.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P371 + P380 + P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	$Sr(NO_3)_2$	N_2O_6Sr (Hill)
Molar mass	211.63 g/mol	

Hazardous ingredients

Chemical name (Concentration)
CAS-No.
Strontium nitrate (>= 90 % - <= 100 %)
10042-76-9

SECTION 4. First aid measures

Description of first-aid measures

Inhalation
After inhalation: fresh air.

Skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Ingestion
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Nausea, Vomiting
The following applies to nitrites/nitrates in general: methemoglobinemia after the uptake of large quantities.

The following applies to strontium compounds in general: only slightly absorbable via the gastrointestinal tract.
Irritation and corrosion
Risk of serious damage to eyes.

Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Fire-fighting measures

Extinguishing media
Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture
Not combustible.
Fire may cause evolution of:
nitrous gases, nitrogen oxides
Has a fire-promoting effect due to release of oxygen.
Ambient fire may liberate hazardous vapors.

Advice for firefighters
Special protective equipment for fire-fighters
In the event of fire, wear self-contained breathing apparatus.

Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Dry.

Tightly closed. Separately or together with other oxidizing substances only and away from sources of ignition and heat. Because of their oxidation potential these products can raise the burning rate of combustible substances substantially or ignite combustible substances on contact with them.

Store at +5°C to +30°C (+41°F to +86°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

Eye/face protection

Tightly fitting safety goggles

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when dusts are generated.

SECTION 9. Physical and chemical properties

Physical state	solid
Color	white
Odor	odorless

Odor Threshold	No information available.
pH	ca. 5 - 7 at 50 g/l 68 °F (20 °C)
Melting point	1058 °F (570 °C)
Boiling point/boiling range	1193 °F (645 °C) at 1,013 hPa
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	2.986 g/cm3 at 68 °F (20 °C)
Relative density	No information available.
Water solubility	660 g/l at 68 °F (20 °C)
Partition coefficient: n-octanol/water	log Pow: 0.19 (calculated) (Lit.) Bioaccumulation is not expected.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	The substance or mixture is classified as oxidizing with the category 1.
Bulk density	ca.1,000 kg/m3

SECTION 10. Stability and reactivity

Reactivity
See below

Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions
Violent reactions possible with:

combustible substances, Powdered metals, sulfur, oxidizable substances, Polyvinyl chloride

Conditions to avoid
no information available

Incompatible materials
no information available

Hazardous decomposition products
in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure
Eye contact, Skin contact, Ingestion

Acute oral toxicity
LD50 Rat: > 2,000 mg/kg
OECD Test Guideline 423

Symptoms: Nausea, Vomiting

Acute inhalation toxicity
LC50 Rat: > 4.5 mg/l; 4 h ; dust/mist
OECD Test Guideline 403

Symptoms: Possible damages:, mucosal irritations

Skin irritation
In vitro study
Result: No skin irritation
Human Skin Model Test

Eye irritation
Rabbit
Result: Irreversible effects on the eye
OECD Test Guideline 405

Causes serious eye damage.

Sensitization
Maximization Test Guinea pig
Result: Does not cause skin sensitization.
Method: OECD Test Guideline 406

The value is given in analogy to the following substances: strontium chloride hexahydrate

Genotoxicity in vitro
In vitro mammalian cell gene mutation test
MOUSE LYMPHOMA TEST
Result: negative
Method: OECD Test Guideline 476

Mutagenicity (mammal cell test): chromosome aberration.
Human lymphocytes
Result: negative
Method: OECD Test Guideline 405

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information
After uptake:
Headache, Diarrhea
The following applies to strontium compounds in general: only slightly absorbable via the gastrointestinal tract.
The following applies to nitrites/nitrates in general: methemoglobinemia after the uptake of large quantities.
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish
static test LC50 Cyprinus carpio (Carp): > 97.5 mg/l; 96 h
Analytical monitoring: yes
OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates
static test LC50 Daphnia magna (Water flea): 125 mg/l; 48 h (ECHA)

Toxicity to algae
static test ErC50 Pseudokirchneriella subcapitata (green algae): > 104.7 mg/l; 72 h
OECD Test Guideline 201

Toxicity to bacteria
static test EC50 activated sludge: > 100 mg/l; 3 h
OECD Test Guideline 209

Toxicity to fish (Chronic toxicity)
flow-through test NOEC Danio rerio (zebra fish): >= 100 mg/l; 34 d

OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
semi-static test NOEC Daphnia magna (Water flea): 21 mg/l; 21 d

OECD Test Guideline 211

Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

Partition coefficient: n-octanol/water
log Pow: 0.19
(calculated)
(Lit.) Bioaccumulation is not expected.

Mobility in soil

No information available.

Additional ecological information
Biological effects:
Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of drinking- water supplies.
Hazard for drinking water supplies.
Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 1507
Proper shipping name	STRONTIUM NITRATE
Class	5.1
Packing group	III
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 1507
Proper shipping name	STRONTIUM NITRATE
Class	5.1
Packing group	III
Environmentally hazardous	--
Special precautions for user	no

Sea transport (IMDG)

UN number	UN 1507
Proper shipping name	STRONTIUM NITRATE
Class	5.1
Packing group	III
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-Q

SECTION 15. Regulatory information

United States of America

Canada

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

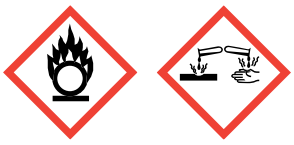
Notification status

TSCA:	All components of the product are listed in the TSCA-inventory.
DSL:	All components of this product are on the Canadian DSL

SECTION 16. Other information

Training advice
Provide adequate information, instruction and training for operators.

Labeling
Hazard pictograms



Signal Word
Danger

Hazard Statements
H271 May cause fire or explosion; strong oxidizer.
H318 Causes serious eye damage.

Precautionary Statements
Prevention
P210 Keep away from heat.
P221 Take any precaution to avoid mixing with combustibles, heavy-metal compounds, acids and alkalis.
P280 Wear eye protection.
Response
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313 Get medical advice/ attention.

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at www.wikipedia.org.

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