SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

<table>
<thead>
<tr>
<th>Product name</th>
<th>Strontium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>441899</td>
</tr>
<tr>
<td>Brand</td>
<td>Aldrich</td>
</tr>
<tr>
<td>REACH No.</td>
<td>A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7440-24-6</td>
</tr>
</tbody>
</table>

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

| Identified uses | Laboratory chemicals, Manufacture of substances |

1.3 Details of the supplier of the safety data sheet

| Company | Sigma-Aldrich Inc. 3050 SPRUCE ST ST. LOUIS MO 63103 UNITED STATES |
| Telephone | +1 314 771-5765 |
| Fax | +1 800 325-5052 |

1.4 Emergency telephone

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

- Substances and mixtures which in contact with water emit flammable gases (Category 1), H260
- Skin irritation (Category 2), H315

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

2.2 Label elements

**Labelling according Regulation (EC) No 1272/2008**
The life science business of Merck operates as MilliporeSigma in the US and Canada.

Pictogram

Signal Word
Danger

Hazard statement(s)
H260 In contact with water releases flammable gases which may ignite spontaneously.
H315 Causes skin irritation.

Precautionary statement(s)
P231 + P232 Handle and store contents under inert gas. Protect from moisture.
P302 + P352 IF ON SKIN: Wash with plenty of water.

Supplemental Hazard information (EU)
EUH014 Reacts violently with water.

**Reduced Labeling (<= 125 ml)**

Signal Word
Danger

Hazard statement(s) none
Precautionary statement(s) none

Supplemental Hazard information (EU)
EUH014 Reacts violently with water.

### 2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strontium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7440-24-6</td>
<td>Water-react 1; Skin Irrit. 2; H260, H315</td>
</tr>
<tr>
<td>EC-No.</td>
<td>231-133-4</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.
SECTION 4: First aid measures

4.1 Description of first-aid measures

**General advice**
Consult a physician. Show this material safety data sheet to the doctor in attendance.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**
Flush eyes with water as a precaution.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

**Suitable extinguishing media**
Dry powder Dry sand

**Unsuitable extinguishing media**
Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture
Strontium oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local
regulations (see section 13). Do not flush with water. Keep in suitable, closed containers for disposal.

6.4 **Reference to other sections**
For disposal see section 13.

---

**SECTION 7: Handling and storage**

7.1 **Precautions for safe handling**

**Advice on safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

**Advice on protection against fire and explosion**
Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
For precautions see section 2.2.

7.2 **Conditions for safe storage, including any incompatibilities**

**Storage conditions**
Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Never allow product to get in contact with water during storage.

**Storage class**
Storage class (TRGS 510): 4.3: Hazardous materials, which set free flammable gases upon contact with water.

7.3 **Specific end use(s)**
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

---

**SECTION 8: Exposure controls/personal protection**

8.1 **Control parameters**

**Ingredients with workplace control parameters**

8.2 **Exposure controls**

**Personal protective equipment**

**Eye/face protection**
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection glasses tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
Body Protection
Impervious clothing, Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state: Pieces
b) Color: light gray
c) Odor: No data available
d) Melting point/freezing point: Melting point/range: 757 °C - lit.
e) Initial boiling point and boiling range: 1,384 °C - lit.
f) Flammability (solid, gas): No data available
g) Upper/lower flammability or explosive limits: No data available
h) Flash point: Not applicable
i) Autoignition temperature: No data available
j) Decomposition temperature: No data available
k) pH: No data available
l) Viscosity:
   Viscosity, kinematic: No data available
   Viscosity, dynamic: No data available
m) Water solubility: No data available
n) Partition coefficient: n-octanol/water: No data available
o) Vapor pressure: 13 hPa at 898 °C
p) Density: 2,6 g/mL at 25 °C - lit.
q) Relative density: No data available
r) Relative vapor: No data available
9.2 **Other safety information**
No data available

**SECTION 10: Stability and reactivity**

10.1 **Reactivity**
No data available

10.2 **Chemical stability**
Stable under recommended storage conditions.

10.3 **Possibility of hazardous reactions**
Reacts violently with water.

10.4 **Conditions to avoid**
Exposure to moisture.

10.5 **Incompatible materials**
Strong oxidizing agents, Water, Oxygen, acids

10.6 **Hazardous decomposition products**
In the event of fire: see section 5

**SECTION 11: Toxicological information**

11.1 **Information on toxicological effects**

- **Acute toxicity**
  Oral: No data available
  Inhalation: No data available
  Dermal: No data available

- **Skin corrosion/irritation**
  Remarks: No data available

- **Serious eye damage/eye irritation**
  Remarks: No data available

- **Respiratory or skin sensitization**
  No data available

- **Germ cell mutagenicity**
  No data available

- **Carcinogenicity**
  No data available

- **Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

**11.2 Additional Information**
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**SECTION 12: Ecological information**

**12.1 Toxicity**
Toxicity to fish (Chronic toxicity): LC50 - Oncorhynchus mykiss (rainbow trout) - 0,17 - 15,61 mg/l - 28 d

**12.2 Persistence and degradability**
No data available

**12.3 Bioaccumulative potential**
Bioaccumulation: Cyprinus carpio (Carp) - 17,5 d - 1000 µg/l (Strontium)
Bioconcentration factor (BCF): 9,5

**12.4 Mobility in soil**
No data available

**12.5 Results of PBT and vPvB assessment**
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Endocrine disrupting properties**
No data available

**12.7 Other adverse effects**
No data available

---

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**
Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

**Contaminated packaging**
Dispose of as unused product.
SECTION 14: Transport information

14.1 UN number
ADR/RID: 3208
IMDG: 3208
IATA: 3208

14.2 UN proper shipping name
ADR/RID: METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S. (Strontium)
IMDG: METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S. (Strontium)
IATA: Metallic substance, water-reactive, n.o.s. (Strontium)

Passenger Aircraft: Not permitted for transport

14.3 Transport hazard class(es)
ADR/RID: 4.3
IMDG: 4.3
IATA: 4.3

14.4 Packaging group
ADR/RID: I
IMDG: I
IATA: I

14.5 Environmental hazards
ADR/RID: no
IMDG Marine pollutant: no
IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

: OTHER HAZARDS

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.
EUH014 Reacts violently with water.
H260 In contact with water releases flammable gases which may ignite spontaneously.
H315 Causes skin irritation.
Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information
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