

SAFETY DATA SHEET

Revision Date 26-Mar-2024

Revision Number 3

1. Identification

Product Name

Strontium fluoride

7783-48-4

Cat No. :

CAS No Synonyms

Recommended Use Uses advised against

No information available Laboratory chemicals. Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Stanford Advanced Materials Address : 23661 Birtcher Dr., Lake Forest, CA 92630 U.S.A. Tel: (949) 407-8904 Fax: (949) 812-6690

Emergency Telephone Number

(949) 407-8904

(This telephone number is available 24 hours per day, 7 days per week.)

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/Irritation Serious Eye Damage/Eye Irritation Specific target organ toxicity (single exposure) Target Organs - Respiratory system. Category 2 Category 2 Category 3

Label Elements

Signal Word Warning

Hazard Statements Causes skin irritation Causes serious eye irritation May cause respiratory irritation



Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

Skin

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention

Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | | CAS No | Weight % | | | | |
|-------------------------------------|--|---|--------------------------------------|--|--|--|--|
| Strontium fluoride | | 7783-48-4 | >95 | | | | |
| | | | | | | | |
| 4. First-aid measures | | | | | | | |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Ge medical attention. | | | | | | |
| Skin Contact | Wash off imr | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention. | | | | | |
| Inhalation | Remove to fr | esh air. Get medical attention. If not bre | athing, give artificial respiration. | | | | |
| Ingestion | Do NOT indu | ce vomiting. Get medical attention. | | | | | |
| Most important symptoms and effects | No information | on available. | | | | | |
| Notes to Physician | Treat symptomatically | | | | | | |
| 5. Fire-fighting measures | | | | | | | |

Strontium fluoride

| Jnsuitable Extinguishing Media | No information available | | 1 | 1 | | | |
|--|---|---|--|---|---|---|------------------------------|
| Flash Point Method - | Not applicable No information available | | | | | | |
| | | | | | | | |
| Autoignition Temperature Explosion Limits | No information available | | | | | | |
| Upper Lower | No data available No data available | | | | | | |
| Sensitivity to Mechanical Impa Sensitivity to Static Discharge | | | 1 | 1.1 | | 1 | 1 |
| Specific Hazards Arising from the Keep product and empty container a | Chemical way from heat and sources of | ignition. | .1 | | | | |
| lazardous Combustion Products | | | | | | | |
| Hydrogen fluoride. Protective Equipment and Precaut As in any fire, wear self-contained br protective gear. Thermal decomposit | eathing apparatus pressure-d | emand, MSF ating gases a | A/NÍÖSH and vapors. | approve | d or equiva | alent) and full | al a |
| NFPA Health 2 | Flammability | n In | stability | 1.1 | Ph | ysical hazaro | ls |
| 2 | 1 | | 0 | | , | N/A | |
| | 6. Accidental rel | lease m | | S | | N/A | |
| 2 Personal Precautions | Ensure adequate ventilation | | easure | | ment as re | | l dust |
| Personal Precautions | | n. Use perso | easure | ive equip | | equired. Avoic | |
| Personal Precautions | Ensure adequate ventilation formation. | n. Use perso | easure | ive equip | | equired. Avoic | |
| Personal Precautions Environmental Precautions Methods for Containment and Clea | Ensure adequate ventilation formation. Should not be released into Information. | n. Use perso | easure onal protect ment. See | ive equip Section 1 | 12 for addi | equired. Avoic tional Ecologi | |
| Personal Precautions Environmental Precautions Methods for Containment and Clea | Ensure adequate ventilation formation. Should not be released into Information. | n. Use perso | easure onal protect ment. See | ive equip Section 1 | 12 for addi | equired. Avoic tional Ecologi | |
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| | Ensure adequate ventilation formation. Should not be released into Information. | n. Use perso o the environ suitable cont and stor quipment/fac | easure onal protect ment. See ainers for c age ce protectic | ive equip Section 1 lisposal. n. Ensur | 12 for addi Avoid dust | equired. Avoid tional Ecologi formation. | cal Do not |
| Personal Precautions Environmental Precautions Methods for Containment and Clea Jp | Ensure adequate ventilation formation. Should not be released into Information. an Sweep up and shovel into s 7. Handling a Wear personal protective e | n. Use perso o the environ suitable cont and stor quipment/fac clothing. Avo sed in a dry, | easure onal protect ment. See ainers for c age ce protectic id ingestior cool and w | ive equip Section 1 lisposal. n. Ensur n and inha | 12 for addi Avoid dust e adequate alation. Av | equired. Avoid tional Ecologi formation. e ventilation. oid dust form | cal Do not ation. |
| Personal Precautions Environmental Precautions Methods for Containment and Clea Jp Handling Storage. | Ensure adequate ventilation formation. Should not be released into Information. an Sweep up and shovel into s 7. Handling a Wear personal protective e get in eyes, on skin, or on o Keep containers tightly close | n. Use perso o the environ suitable cont and stor quipment/fac clothing. Avo sed in a dry, agents. Aci | easure onal protect ment. See ainers for c age ce protection id ingestion cool and w ds. | ive equip Section 1 lisposal. n. Ensur n and inh ell-ventila | 12 for addi Avoid dust e adequate alation. Av ated place. | equired. Avoid tional Ecologi formation. e ventilation. oid dust form | cal Do not ation. |
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| Personal Precautions Environmental Precautions Methods for Containment and Clea Jp Handling Storage. 8. E Exposure Guidelines | Ensure adequate ventilation formation. Should not be released into Information. an Sweep up and shovel into s 7. Handling a Wear personal protective e get in eyes, on skin, or on o Keep containers tightly clos Materials. Strong oxidizing EXPOSURE CONTROLS | n. Use perso o the environ suitable cont and stor quipment/fac clothing. Avo sed in a dry, agents. Aci / persor | easure mal protect ment. See ainers for c age ce protectic id ingestion cool and w ds. | ive equip Section 1 lisposal. n. Ensur and inha ell-ventila ectio | 12 for addi Avoid dust e adequate alation. Av ated place. | equired. Avoid tional Ecologi formation. e ventilation. oid dust form Incompatible | cal Do not ation. e |
| Personal Precautions Environmental Precautions Methods for Containment and Clea Jp Handling Storage. 8. E Exposure Guidelines | Ensure adequate ventilation formation. Should not be released into Information. an Sweep up and shovel into s 7. Handling a Wear personal protective e get in eyes, on skin, or on o Keep containers tightly clos Materials. Strong oxidizing | n. Use perso o the environ suitable cont and stor quipment/fac clothing. Avo sed in a dry, agents. Aci / persor | easure onal protect ment. See ainers for c age ce protectic id ingestior cool and w ds. al prot | ive equip Section 1 lisposal. n. Ensur and inha ell-ventila ell-ventila <u>ectio</u> <u>IIOSH</u> 250 mg/m | 12 for addi Avoid dust e adequate alation. Av ated place. | equired. Avoid tional Ecologi formation. e ventilation. oid dust form Incompatible | cal Do not ation. e |
| Personal Precautions Environmental Precautions Methods for Containment and Clea Jp Handling Storage. 8. E Exposure Guidelines | Ensure adequate ventilation formation. Should not be released into Information. an Sweep up and shovel into s 7. Handling a Wear personal protective e get in eyes, on skin, or on o Keep containers tightly clos Materials. Strong oxidizing EXPOSURE CONTROLS | n. Use perso o the environ suitable cont and stor quipment/fac clothing. Avo sed in a dry, agents. Aci / persor | easure onal protect ment. See ainers for c age ce protectic id ingestior cool and w ds. al prot | ive equip Section 1 lisposal. n. Ensur and inha ell-ventila ectio | 12 for addi Avoid dust e adequate alation. Av ated place. | equired. Avoid tional Ecologi formation. e ventilation. oid dust form Incompatible | cal Do not ation. e |

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.

Personal Protective Equipment

| Eye/face Protection | 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 and body protection | Wear appropriate protective gloves and clothing to prevent skin exposure. | | | | | | |
| Respiratory Protection | No protective equipment is needed under normal use conditions. | | | | | | |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. | | | | | | |

9. Physical and chemical properties

| Physical State Appearance | | | 1 | Solid White | | | | 1 | · |
|-------------------------------|---------------------------------------|-------|---|--------------------------|----------|----|-----|------|---|
| Odor | | | | Odorless | | | | | |
| Odor Threshold | | | | No information available | | | | | |
| рН | | | | | | | | | |
| Melting Point/Range | | 111 | | 1463.00 °C / 2665.4 °F | | | 111 | | |
| Boiling Point/Range | | | | 2489°°C / 4512.2 °F @ | 2 760 mm | Hg | | | |
| Flash Point | | | | Not applicable | | | | | |
| Evaporation Rate | | | | Not applicable | | | | | |
| Flammability (solid,gas) | · · · · · · · · · · · · · · · · · · · | 1 | | No information available | | | 1 | | |
| Flammability or explosive I | limits | | | | | | | | |
| Upper | | | | No data available | | | | | |
| Lower | | : | : | No data available | : | | | | |
| Vapor Pressure | | | | 1 mmHg @ 921 °C | | 1 | | | |
| Vapor Density | | | | Not applicable | | | | | |
| Specific Gravity | | | | 4.2400 | | | | | |
| Solubility | | | | Insoluble in water | | | | | |
| Partition coefficient; n-octa | nol/water | 1.1.1 | | No data available | | | | | |
| Autoignition Temperature | | | | No information available | | | | | |
| Decomposition Temperatu | re | | | > 100°C | | | | | |
| Viscosity | | | | Not applicable | | | | | |
| Molecular Formula | | 1 | 1 | F2Sr | 1 | | 1 | 1.00 | |
| Molecular Weight | | | | 125.62 | | | | | |
| | | | | | | | | | |

10. Stability and reactivity

| Reactive Hazard | None known, based on information available | | | | | | | | | | |
|---------------------------------|--|--|--|---|--|-----|---|--|--|--|--|
| Stability | No information available. | No information available. | | | | | | | | | |
| Conditions to Avoid | Incompatible products. Exces | ncompatible products. Excess heat. Avoid dust formation. | | | | | | | | | |
| Incompatible Materials | Strong oxidizing agents, Acids | S | | · | | · . | | | | | |
| Hazardous Decomposition Product | t s Hydrogen fluoride | | | | | | | | | | |
| Hazardous Polymerization | No information available. | | | | | | 1 | | | | |
| Hazardous Reactions | None under normal processin | g. | | | | | | | | | |

11. Toxicological information

Acute Toxicity

Product Information

| omponent Information | · · · · · · · · · · · · · · · · · · · | and the second | and the second |
|----------------------|---------------------------------------|--|--|
| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
| Strontium fluoride | LD50 = 10600 mg/kg (Rat) | LD50 > 2000 mg/kg (Rat) | LC50 > 4.5 mg/L (Rat) 4 h |
| Strontium fluoride | LD50 = 10600 mg/kg (Rat) | LD50 > 2000 mg/kg (Rat) | LC50 > 4.5 mg/L (Rat) |

Strontium fluoride

| oxicologically Syn | eraistic | No information av | vailable | | | | | |
|-----------------------------|---|---|------------------|------------------|-------------|---------------|----------------|---|
| Products | • | well as chronic eff | laata from char | and long torn | | r 0 | | |
| - | iale ellecis as | | | and long-term | ii exposu | | | |
| ritation | 11 | No information av | vailable | | | | 111 | 19 |
| ensitization | | No information av | vailable | | | | | |
| arcinogenicity | 1 | The table below i | indicates whethe | r each agency | has listed | any ingredi | ent as a car | cinogen. |
| Component | CAS No | IARC | NTP | ACGI | | OSHA | | exico |
| Strontium fluoride | 7783-48-4 | Not listed | Not listed | Not liste | ed | Not listed | Not | t listed |
| - | - | | | | | | | 1 |
| eproductive Effect | | No information av | vallable. | | | | | |
| evelopmental Effe | cts | No information av | vailable. | | | | | |
| eratogenicity | | No information av | vailable. | | | | | |
| TOT - single expo | | Respiratory syste | em , | · · · | · | | · . | · |
| TOT - repeated ex | oosure | None known | | | | | , | |
| spiration hazard | | No information av | vailable | | | | | |
| ymptoms / effects elayed | ,both acute an | d No information av | vailable | | | | | · . |
| ndocrine Disrupto | r Information | No information av | vailable | | | | | |
| ther Adverse Effe | cts | The toxicological | properties have | not been fully i | nvestigate | ed. | : * * | |
| | | 10 Eco | logical inf | ormation | | | | |
| cotoxicity | 1. 1.1. | 12. ECU | logical inf | ormation | 1.1 | • | | 1997 - |
| o not empty into dra | ains. | | | | | | | |
| ersistence and De | gradability | No information av | vailable | | | | .1 | 1 |
| ioaccumulation/ A | ccumulation | No information av | vailable. | | | | | |
| obility | | No information av | vailable. | | | | | |
| | 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - | 10.5 | | 100 | <u></u> | | 111 | |
| lasta Disposal Mot | hada | | osal consi | | | oordod obor | | oified on a |
| aste Disposal Met | noas | Chemical waste hazardous waste national hazardo | e. Chemical was | te generators m | nust also d | consult local | l, regional, a | ind |
| | | | nsport info | ormation | | | | |
| <u>OT</u> TDG | | Not regulated Not regulated | | | | | | |
| TA | | Not regulated | | | | | | |
| <u>IDG/IMO</u> | | | ulatory inf | ormation | | | | |
| | | 10. Reg | diatory ini | ornation | | | | |
| nited States of Am | erica Inventor | <u>у</u> | | | | | | |
| | | | | | | | | |

Strontium fluoride

Revision Date 26-Mar-2024

| | | 1 1 | Active-Inactive | Flags |
|--------------------|-----------|-----|-----------------|---------|
| Strontium fluoride | 7783-48-4 | X | ACTIVE | · _ · · |

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed '-' - Not Listed

| TSCA - Per 40 CFR 751, Regulation of Certain Chemical | Not applicable | |
|---|----------------|---|
| Substances & Mixtures, Under TSCA Section 6(h) (PBT) | | 1 |
| TSCA 12(b) - Notices of Export | Not applicable | |

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|--------------------|-----------|-----|------|-----------|-------|------|------|------|-------|----------|
| Strontium fluoride | 7783-48-4 | Х | - | 232-000-3 | - | Х | Х | Х | Х | KE-32223 |

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

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

| CWA (Clean Water Act) | Not applicable | 1 | 1 | 1.1 | 1 | 1.1 |
|---|----------------|---|-------|-----|--------|---------|
| Clean Air Act | Not applicable | | | | | |
| OSHA - Occupational Safety and Health Administration | Not applicable | 1 | | ÷., | .1 | 4. 1 |

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island | |
|--|---------------|------------|--------------|-------------|--------------|--|
| Strontium fluoride | | X | | _ · · · · · | Х | |
| U.S. Department of Trans Reportable Quantity (RQ): DOT Marine Pollutant DOT Severe Marine Pollut | N N | | | | | |

U.S. Department of Homeland This product does not contain any DHS chemicals. Security

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH Not applicable

| Com | nponent | 1. | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|----------|-------------|----|-----------|---|---|---|
| Strontiu | um fluoride | | 7783-48-4 | - | - | - |

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) |
|--------------------|-----------|----------------|---------------------------------|------------------------------|--|
| Strontium fluoride | 7783-48-4 | Not applicable | Not applicable | Not applicable | Not applicable |

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

Other International Regulations

| 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) |
|--------------------|-----------|---|--|-------------------------------|---------------------------------------|
| Strontium fluoride | 7783-48-4 | Not applicable | Not applicable | Not applicable | Not applicable |

| | 16. Other information | | | | | | |
|---|-----------------------|--|-----|--|--|--|--------|
| Prepared By | | Stanford Advanced Materials Email: sales@samaterials.com www.samaterials.com | 111 | | | | |
| Revision Date Print Date Revision Summary | 1 | 26-Mar-2024 26-Mar-2024 New emergency telephone respons | | | | | 1 1 |

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