

Material Safety Data Sheet

Identity: Strontium titanate

Formula: SrTiO₃

SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 183.52

CAS #	OSHA PEL	ACGIH TLV	%
12060-59-2	N/A	N/A	100%

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

Melting Point: 2060.0 °C

Evaporation Rate: N/A

in water: Insoluble

Vapor Pressure (vs. air or mmHg): N/A

Vapor Density (vs. air=1): N/A

Specific Gravity: (water=1): N/A Solubility

Percent Volatile: N/A

Appearance and odor: White – to grey powder and pieces, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Flash Point: N/A *Method Used:* Non-Flammable *Explosive Limits:* LEL: N/A UEL: N/A

Extinguishing Media: Use graphite or dry sodium chloride. DO NOT USE WATER.

Special Fire Fighting Procedures:

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire and Explosion Hazards: May emit toxic fumes if involved in a fire.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None

Incompatibility: Strong acids and strong bases

Hazardous Polymerization: Will not occur

Hazardous Decomposition or Byproducts: Strontium oxide, titanium oxide

Conditions to Avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Routes of entry: Inhalation: Yes Skin: Yes Eyes: Yes Ingestion: Yes Other: No

Health Hazards (Acute and Chronic):

Strontium compounds have a low order of toxicity. It is chemically and biologically similar to calcium. The oxides and hydroxides are moderately caustic materials.

Titanium compounds are considered to be physiologically inert. There are no reported cases in the literature where titanium as such has caused intoxication. The dusts of titanium compounds, such as titanium oxide, may be placed in the nuisance category. (Sax, Properties of Industrial Materials, sixth edition).

Inhalation:

Acute: May be a nuisance dust causing coughing and shortness of breath.

Chronic: No chronic health effects recorded.

Ingestion:

Acute: No acute health effects recorded.

Chronic: No chronic health effects recorded.

Skin:

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

Eye:

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

Target Organ: No target organs for strontium titanate have been recorded.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No EPA? No

Medical Conditions Aggravated by Exposure: Pre-existing lung disorders.

Emergency and First Aid Procedures:

- Inhalation:* Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult, seek medical attention
- Ingestion:* Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.
- Skin:* Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist.
- Eye:* Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled:

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste disposal method:

Dispose of in accordance with state, local, and federal regulations.

Hazard Label Information:

Store in tightly sealed container. Wash thoroughly after handling.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Recommended

Work/Hygienic/Maintenance Practices:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established