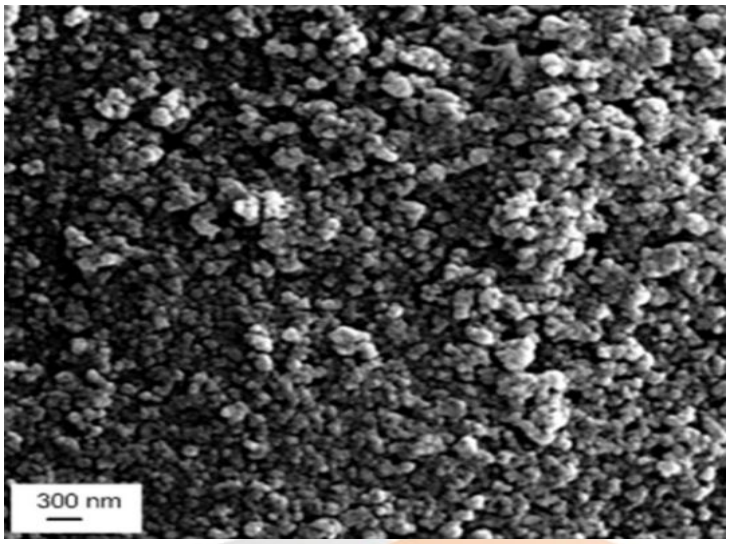
Specification Sheet

Strontium Titanate Nanoparticles
(SrTiO3, Purity: 99.9%, APS: 100 nm)
Stock No: NS6130-02-233, CAS: 12060-59-2

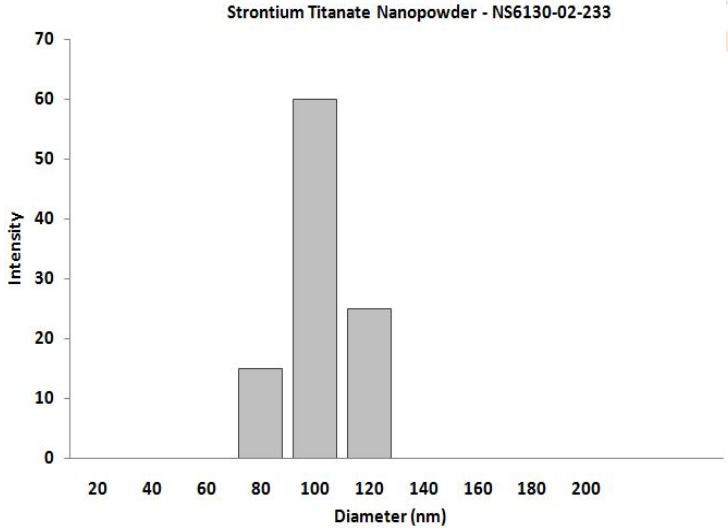
Product	**:**	**Strontium Titanate Nanoparticles**
Stock No.	:	NS6130-02-233
CAS	:	12060-59-2
APS	:	100 nm
Purity	:	99.9 %
Molecular Formula	:	SrTiO3
Molecular Weight	:	183.49 g/mol
Form	:	Powder
Color	:	Gray/White off
Density	:	4.81 g/cm³
Melting Point	:	2060 °C
Boiling Point	:	>3000 °C
Solubility	:	Insoluble in water
Main Inspect Verifier	**:**	**Manager QC**

Note: Product Specification are subject to amendment and may change over time

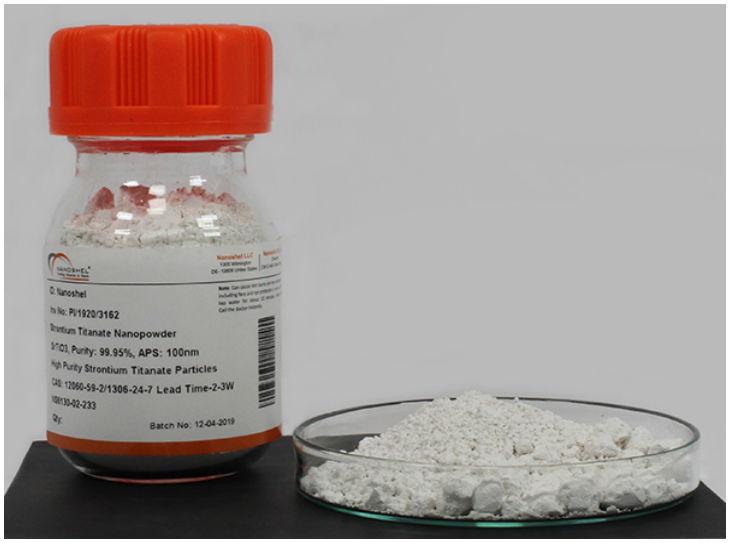
Characterization of Strontium Titanate Nanoparticles



SEM - SrTiO3 Nanopowder



Particles Size Analysis



Strontium Titanate

Intelligent Materials Pvt. Ltd.
www.nanoshel.com, sales@nanoshel.com

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Certificate of Analysis

Strontium Titanate Nanoparticles
(SrTiO3, Purity: 99.9%, APS: 100 nm)
Stock No: NS6130-02-233, CAS: 12060-59-2

Product Name	:	**Strontium Titanate Nanoparticles**
Stock No	:	NS6130-02-233
CAS	:	12060-59-2
Assay	:	99.9%
Other Metal	:	500ppm

Note 1: Values are given in % unless otherwise specified.

Note 2: All figures above are weight for weight as determined by ICP

NANOSHEL LLC (*In Collaboration*)
3422 Old Capitol Trial Suit 1305, Wilmington DE - 19808 USA
(001) 302 652-3464, + 91 9779-880077

Strontium
TITANATE

Strontium Titanate is an oxide of strontium and titanium with the chemical formula SrTiO3. It's a black powder with the melting point of 2080°C. Strontium Titanate nanoparticles/nanopowder can be used in different electric devices. Strontium Titanate Nanoparticles/Nanopowder can be used in high density dynamic random access memories, flat panel displays, tunable resonant circuits, and soft phonon devices. In capacitors like tunable microwave capacitors and micro capacitors, Strontium Titanate nanoparticles/nanopowder can be used.

$SrTiO_3$

APPLICATIONS

- ✓ Oxygen sensors
- ✓ Photocatalyst
- ✓ Planar capacitors
- ✓ Soft- phonon devices
- ✓ Semiconductive ceramics
- ✓ Flat panel displays, field emission displays
- ✓ Microwave solitons, PTC thermistors and varistors
- ✓ Magnetic field insensitive thermometers
- ✓ Ultralow-temperature scanning microscopes

SPECS

- ✓ Purity: 99.9%
- ✓ Molecular Weight: 183.49g/mol
- ✓ Color: gray/off-white
- ✓ Density: 4.81 g/cm³
- ✓ Melting Point: 2060°C
- ✓ Boiling Point: >3000 °Cpoint)

All types of particles size are available in micro and nano range.

CATALOGUE NO.

- **NS6130-02-233**

/nanoshel

www.nanoshel.com | sales@nanoshel.com

Tel: 91+9779550077,9779238252

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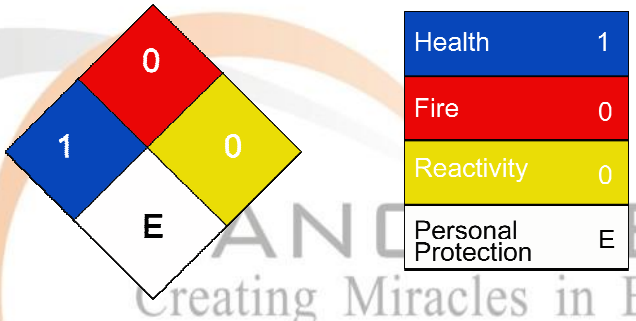
MATERIAL SAFETY DATA SHEET

STRONTIUM TITANATE NANOPOWDER
Stock No: NS6130-02-233

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name	:	Strontium Titanate Nanopowder
Use	:	Research and Development
Address	:	Nanoshel LLC 3422 Old Capitol Suit 1305 Willmington DE – 19808 United States
Emergency	:	+1.532.253.9878



2. COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Characterisation	:	$SrTiO_3$
Hazardous Ingredients	:	Nil

3. HAZARD IDENTIFICATION

Toxicity	:	No Data Available
Eye Contact	:	Dust may cause irritation

4. FIRST AID MEASURES

Skin	:	Wash skin with soap and copious amounts of water
Eyes	:	Imediate and prolonged irritation treat with copious amounts of water.
Ingestion	:	Wash out mouth with water provided person Is Conscious.
Inhalation	:	If inhaled, remove to fresh air. If not breathing give artificial respiration. If

breathing is difficult, give oxygen

5. FIREFIGHTING MEASURES

Extinguishing Data	:	Water Spray
Unsuitable Extinguishing Data	:	Carbon Dioxide, Dry Chemical Powder, Polymer Foam
Unusual Firefighting Hazards	:	Capable of creating a dust explosion
Special Firefighting Procedures	:	Use normal procedures which include wearing self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	:	Wear respirator, chemical safety goggles, rubber boots and gloves.
Precautions to the Environment	:	Sweep up, place in a bag and hold for waste disposal.
Cleanup Procedures	:	Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Handling Precautions	:	Chemical Safety Goggles. Compatible with Chemical-resistant Gloves
Storage	:	Store in a cool dry place.
Unusable Packaging Materials	:	Wash thoroughly after handling. Irritating dust, Keep tightly closed

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal Protective Equipment

Respiratory	:	Self-contained breathing apparatus
Hand	:	Chemical-resistant Gloves
Eye	:	Avoid contact with eyes
Skin	:	Wash thoroughly after handling

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	:	Powder
Colour	:	Gray/off White
Odour	:	No Odour

Safety Related Information

FlashPoint	:	N/A
Boiling Point	:	>3000 °C
Melting Point	:	2060°C
pH	:	N/A

10. STABILITY AND REACTIVITY

Stability	:	Completely Stable
Reactivity	:	Non Reactive/ Non Soluble

11. TOXICOLOGICAL INFORMATION

Possible Health Effects

Skin	:	No effect
Eyes	:	Irritation
Inhalation	:	No Chocking Hazard
Toxicity	:	Non-Toxic

12. ECOLOGICAL IMPACT

Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.
No Negative Ecological Impact, Data not Available

13. WASTE DISPOSAL

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator, equipped with an afterburner and scrubber

14. TRANSPORT INFORMATION (UN ORNEK OLARAK VERİLMİŞTİR)

HS Code	:	28419000
CAS	:	12060-59-2
Proper Shipping Name	:	Strontium Titanate Nanopowder
Air Transport (ICAO & IATA)	:	Compound Nanopowder
Class	:	Non Hazardeous
Packing group	:	Normal Packing
Transport information	:	Not regulated for IATA (AIR)

15. OHTER REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: Strontium Titanate Nanopowder

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada)

DSCL (EEC):

R36- Irritating to eyes
S2- Keep out of the reach of children
S46- If swallowed, seek medical advice immediately & show container or label

HMIS (U.S.A.):

Health Hazard: 1
Fire Hazard: 0
Reactivity: 0
Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1
Flammability: 0
Reactivity: 0
Specific hazard:

Protective Equipment:

Gloves.
Lab coat.
Dust respirator. Be sure to use an approved/certified respirator or equivalent.
Splash goggles.

16. OTHER INFORMATION

References: Not available
Other Special Considerations: Not available