



Safety Data Sheet

Skyspring Nanomaterials, Inc. | www.ssnano.com

1 Identification of substance:

- **Product name:** SULFUR, POWDER, 99.99%
- **Product number:** 6510SH
- **Manufacturer/Supplier:**
SkySpring Nanomaterials, Inc.
2935 Westhollow Dr., Houston, TX 77082, USA
Phone: 281-870-1700, Fax: 281-870-8002, Email: sales@ssnano.com

2 Composition/Information on ingredients:

- Synonyms: Sulfur
- **Formula:** S
- **Molecular Weight:** 32.07 g/mol
- **CAS No.:** 7704-34-9
- **EC-No.:** 231-722-6

3 Hazards identification

Emergency Overview

OSHA Hazards

Flammable Solid

HMIS Classification

Health Hazard: 0

Flammability: 1

Physical hazards: 2

NFPA Rating

Health Hazard: 0

Fire: 1

Reactivity Hazard: 2

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Ingestion May be harmful if swallowed.

4 First aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5 Fire fighting measures**Flammable properties**

Flash point 168 °C (334 °F) - closed cup

Ignition temperature 232 °C (450 °F)

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6 Accidental release measures**Personal precautions**

Avoid dust formation. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Environmental precautions

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

Methods for cleaning up

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). Keep in suitable, closed containers for disposal.

7 Handling and storage**Handling**

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition – No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

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

Keep in a dry place.

8 Exposure controls and personal protection

Contains no substances with occupational exposure limit values.

Personal protective equipment**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).

Hand protection

For prolonged or repeated contact use protective gloves.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9 Physical and chemical properties:

Appearance

Form: powder
Colour: light yellow

Safety data

pH	no data available
Melting point	112.8 °C (235.0 °F) 117 - 120 °C (243 - 248 °F) 119.0 °C (246.2 °F)
Boiling point	444.7 °C (832.5 °F)
Flash point	168 °C (334 °F) - closed cup
Ignition temperature	232 °C (450 °F)
Lower explosion limit	1 %(V)
Upper explosion limit	40 %(V)
Vapour pressure	10 hPa (8 mmHg) at 246 °C (475 °F)
Density	2.07 g/mL at 25 °C (77 °F)
Water solubility	no data available

10 Stability and reactivity

Storage stability

Stable under recommended storage conditions.

Conditions to avoid

Avoid moisture.
Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Sulphur oxides

11 Toxicological information

Acute toxicity

LDLO Oral - Human - 170 mg/kg
LDLO Oral - rabbit - 175 mg/kg
LC50 Inhalation - Mammal - 1,660 mg/l
LDLO Intravenous - rat - 8 mg/kg
LDLO Intravenous - rabbit - 5 mg/kg
LDLO Intraperitoneal - guinea pig - 55 mg/kg
LDLO Intravenous - dog - 10 mg/kg

Irritation and corrosion

no data available
no data available

Sensitisation

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting., Dermatitis

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion May be harmful if swallowed.
Additional Information
RTECS: WS4250000

12 Ecological information:

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - > 180 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - > 5,000 mg/l - 48 h

Further information on ecology

no data available

13 Disposal considerations

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14 Transport information

DOT (US)

UN-Number: 1350 Class: 4.1 Packing group: III

Proper shipping name: Sulfur

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN-Number: 1350 Class: 4.1 Packing group: III EMS-No: F-A, S-G

Proper shipping name: SULPHUR

Marine pollutant: No

IATA

UN-Number: 1350 Class: 4.1 Packing group: III

Proper shipping name: Sulphur

15 Regulations

OSHA Hazards

Flammable Solid

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard

Massachusetts Right To Know Components

sulfur

CAS-No. 7704-34-9

Revision Date 1993-04-24

Pennsylvania Right To Know Components

sulfur

CAS-No. 7704-34-9

Revision Date 1993-04-24

New Jersey Right To Know Components

sulfur

CAS-No. 7704-34-9

Revision Date 1993-04-24

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.