

SELENIUM
SAFETY DATA SHEET
DATE OF LAST REVISION: 07/02/15

Section 1: Identification

Product Name: Selenium
CAS Number: 7782-9-2 / **EC Number:** 231-957-4
Company: Angstrom Sciences, Inc.
40 South Linden Street
Duquesne, PA 15110
For more information call: 412-469-8466
(Monday - Friday 9:00 AM -5:00 PM EST)

Section 2: HAZARD IDENTIFICATION

Signal Word: Danger



Hazard Statements:	H301 + H331: Toxic if swallowed or if inhaled H373: May cause damage to organs through prolonged or repeated exposure.												
Precautionary Statements:	P260: Do not breathe dust/fume/gas/mist/vapours/spray P301+ P310: If swallowed: Immediately call a Poison Center or doctor/physician. P304 + P340: If inhaled; Remove victim to fresh air and keep at rest in a position comfortable for breathing. P405: Store locked up P501: Dispose of contents/container in accordance with local/regional/national/international regulations.												
HMIS Health Ratings (0-4):	<table><thead><tr><th></th><th>Powder</th><th>Bulk</th></tr></thead><tbody><tr><td>Health:</td><td>2</td><td>1</td></tr><tr><td>Flammability:</td><td>0</td><td>0</td></tr><tr><td>Physical:</td><td>1</td><td>0</td></tr></tbody></table>		Powder	Bulk	Health:	2	1	Flammability:	0	0	Physical:	1	0
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SELENIUM
SAFETY DATA SHEET

Section 3: Composition/Information on Ingredients

Chemical characterization: Semimetal

Additional Names: None

CAS# Description: 7782-49-2

Percentage: 100 wt%

EC number: 231-957-4

Section 4: FIRST AID MEASURES

General Treatment: Seek medical attention if symptoms persist.

Special Treatment: Immediately remove any clothing soiled by the product. Remove breathing apparatus only after contaminated clothing has been completely removed. In case of irregular breathing or respiratory arrest provide artificial respiration.

Important Symptoms: None

Eye Contact: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

Skin Contact: Wash affected area with mild soap and water. Remove any contaminated clothing.

Inhalation: Remove to fresh air. If required, give artificial respiration. Seek medical advice.

Ingestion: Seek medical attention.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing Media: Do not use water for metal fires - use CO₂, sand, extinguishing powder

Flammability: Non-Flammable, except as powder

Special Fire Fighting Procedure: Use full-face, self contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.

Environmental Precautions: Isolate runoff to prevent environmental pollution.

Section 7: HANDLING AND STORAGE

Handling Precautions for safe handling: Wash thoroughly after handling. Handle under dry protective gas.

Conditions for safe storage, including any incompatibilities Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in Section 10.

Work/Hygienic Maintenance: Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

SELENIUM
SAFETY DATA SHEET

Ventilation: Provide sufficient ventilation to maintain concentration at or below threshold limit.

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Permissible Exposure Limits: 0.2 mg/m³ as Se, long-term value
Threshold Limit Value: 0.2 mg/m³ as Se, long-term value
Special Equipment: None
Respiratory Protection: Dust Respirator
Protective Gloves: Rubber Gloves
Eye Protection: Safety glasses or goggles
Body Protection: Protective work clothing. Wear close-toed shoes and long sleeves/pants.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form: Powder, Granules, Pellets, Sputtering target, Custom parts
Color: Various colors
Odor: Odorless
Water Solubility: Insoluble
Boiling Point: 685°C
Melting Point: 217°C
Flash Point: N/A
Autoignition Temperature: N/A
Density: 4.28 g/cc
Molecular Weight: 144.33 g/mol

Section 10: STABILITY AND REACTIVITY

Reactivity: None
Chemical Stability: Stable under recommended storage conditions
Incompatible Conditions: None
Hazardous Decomposition Products: Selenium dioxide (SeO₂)

Section 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:
Eyes: May cause irritation
Skin: May cause irritation
Ingestion: May cause irritation

SELENIUM
SAFETY DATA SHEET

Inhalation: May cause irritation

Chronic: N/A

Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	6700 mg/kg for rat by mouth
Carcinogen:	IARC-3: Not classifiable as to carcinogenicity to humans. EPA-D: Not classifiable as to human carcinogenicity; inadequate human and animal evidence of carcinogenicity or no data are available.

Section 12: ECOLOGICAL INFORMATION

Aquatic Toxicity: high

Persistence Bioaccumulation Toxicity: No

Very Persistent, Very Bioaccumulative: No

Notes:

May cause long lasting harmful effect on aquatic life.

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach any water sources.

Danger to drinking water if even extremely small quantities leak into the ground.

Avoid transfer into the environment.

Section 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state, national, and international regulations

Section 14: TRANSPORT INFORMATION

Hazardous: Hazardous as powder only



SELENIUM
SAFETY DATA SHEET

Hazard Class: 9 Miscellaneous dangerous substances and articles
Packing Group: III
UN Number: UN3077
Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s. (Selenium)

Section 15: REGULATORY INFORMATION

Sec 302 Extremely Hazardous: No
Sec 304 Reportable Quantities: N/A
Sec 313 Toxic Chemicals: Yes

Section 16: OTHER INFORMATION

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.