

MATERIAL SAFETY DATA SHEET (MSDS)

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EM SCIENCE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer.....:

EM SCIENCE

A Division of EM Industries

P.O. Box 70

480 Democrat Road

Gibbstown, N.J. 08027

Preparation Date.: 10/1/98

Information Phone Number.: 856-423-6300

Hours: Mon. to Fri. 8:30-5

Chemtrec Emergency Number: 800-424-9300

Hours: 24 hrs a day

Catalog Number(s):

SX0110 SX0111

Product Name:

Selenium

Synonyms:

Elemental Selenium

Chemical Family:

Metal

Formula:

Se

Molecular Weight.:

78.96

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS #	Appr %
Selenium	7782-49-2	100%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HAZARDOUS IF INHALED OR SWALLOWED.

IRRITATING TO SKIN, EYES AND MUCOUS MEMBRANES.

Appearance:

Dark gray to black shot or powder

POTENTIAL HEALTH EFFECTS (ACUTE AND CHRONIC)

Symptoms of Exposure:

Toxic by ingestion and inhalation. Occupational exposure has caused pallor (paleness), nervousness, depression, garlic odor on breath and sweat, gastrointestinal disturbances and dermatitis. Chronic effects are damaging to lungs, Central Nervous System, and liver. Selenium is also irritating to skin, eyes, and respiratory system.

Medical Cond. Aggravated by Exposure:

Data not available.

Routes of Entry:

Inhalation, ingestion or skin contact.

Carcinogenicity:

The material is not listed (IARC, NTP, OSHA) as cancer causing agent.

4. FIRST AID MEASURES

Emergency First Aid:

GET MEDICAL ASSISTANCE FOR ALL CASES OF OVEREXPOSURE.

Skin: Wash thoroughly with soap and water.

Eyes: Immediately flush thoroughly with water for at least 15 minutes.

Inhalation: Remove to fresh air; give artificial respiration if breathing has stopped.

Ingestion: If conscious, drink water and induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flash Point (F): None

Flammable Limits LEL (%): N/A

Flammable Limits UEL (%): N/A

Extinguishing Media:

Use any suitable for adjacent material.

Fire Fighting Procedures:

Wear self-contained breathing apparatus and protective clothing.

Fire & Explosion Hazards:

Thermal decomposition produces toxic fumes.

6. ACCIDENTAL RELEASE MEASURES

Spill Response:

Evacuate the area of all unnecessary personnel. Wear suitable protective equipment listed under Exposure / Personal Protection. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards. Contain the

release and eliminate its source, if this can be done without risk. Take up and containerize for proper disposal as described under Disposal. Comply with Federal, State, and local regulations on reporting releases. Refer to Regulatory Information for reportable quantity and other regulatory data.

7. HANDLING AND STORAGE

Handling & Storage:

Keep container closed. Store in a cool, well-ventilated area away from incompatible materials. Do not breathe dust or vapor. Do not get in eyes, on skin, or on clothing.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT:

Ventilation, Respiratory Protection, Protective Clothing, Eye Protection:

Material should be handled or transferred in an approved fume hood or with adequate ventilation. Protective gloves (Neoprene, PVC or equivalent) should be worn to prevent skin contact. Safety glasses with side shields should be worn at all times.

Work/Hygenic Practices:

Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available.

EXPOSURE GUIDELINES

OSHA - PEL:

Component	TWA		STEL		CL		Skin
	PPM	MG/M3	PPM	MG/M3	PPM	MG/M3	
Selenium		0.2					

ACGIH - TLV:

Component	TWA		STEL		CL		Skin
	PPM	MG/M3	PPM	MG/M3	PPM	MG/M3	
Selenium		0.2					

If there are no exposure limit numbers listed in the Exposure Guidelines chart, this indicates that no OSHA or ACGIH exposure limits have been established.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (C 760 mmHg) : 685C

Melting Point (C) : 217C

Specific Gravity (H₂O = 1) : 4.81

Vapor Pressure (mm Hg) : N/A

Percent Volatile by vol (%) : None

Vapor Density (Air = 1) : N/A
Evaporation Rate (BuAc = 1): N/A
Solubility in Water (%) : Insoluble
Appearance :
Dark gray to black shot or powder

10. STABILITY AND REACTIVITY

Stability: Yes

Hazardous Polymerization:

Does not occur

Hazardous Decomposition:

Produces SeO_2 on combustion

Conditions to Avoid:

Extreme heat

Materials To Avoid:

- ☐ Water
- ☒ Acids
- ☐ Bases
- ☐ Corrosives
- ☒ Oxidizers
- ☒ Other: Metal amides, carbides, alkali metals, halogen compounds

11. TOXICOLOGICAL INFORMATION

Toxicity Data

oral-rat LD50: 6700 mg/kg inhal-rat LCLo: 33 mg/kg/8H

Toxicological Findings:

Tests on laboratory animals indicate material may cause tumors and adverse reproductive effects.

Cited in Registry of Toxic Effects of Chemical Substances (RTECS)

12. DISPOSAL CONSIDERATIONS

Waste Numbers: D010

Treatment:

Specified Technology - Contact your local permitted waste disposal site (TSD) for permissible treatment sites.
ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL

CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

13. TRANSPORT INFORMATION

DOT Proper Shipping Name:

non-regulated

DOT ID Number :

none

14. REGULATORY INFORMATION

TSCA Statement:

The CAS number of this product is listed on the TSCA Inventory.

Component	SARA EHS (302)	SARA EHS TPQ (lbs)	CERCLA RQ (lbs)
Selenium			100

Component	OSHA Floor List	SARA 313	DeMinimis for SARA 313 (%)
Selenium	Y	Y	1.0

If there is no information listed on the regulatory information chart, this indicates that the chemical is not covered by the specific regulation listed.

15. OTHER INFORMATION

Comments:

None

NFPA Hazard Ratings:

Health : 1
Flammability : 1
Reactivity : 0
Special Hazards :

Revision History: 3/1/82 12/1/85 1/13/87 10/27/87
3/1/91 3/4/94

N/A = Not Available

N/E = None Established

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