

SAFETY DATA SHEET

Preparation Date: 6/17/2014

Revision Date: 6/17/2014

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: S2026
Product Name: L-SELENOMETHIONINE

Other means of identification

Synonyms: (S)-2-Amino-4-(methylseleno)butanoic acid
Butyric acid, 2-amino-4-(methylselenyl)-, L-Seleno-L-methionine

CAS #: 3211-76-5
RTECS # EK7713840
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Regina Wachenheim (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Danger**Hazard statements**

Toxic if swallowed
Toxic if inhaled

**Hazards not otherwise classified (HNOC)**

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

Specific treatment (see .? on this label)
Get medical advice/attention if you feel unwell
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
L-Selenomethionine 3211-76-5	3211-76-5	100	*

4. FIRST AID MEASURES**First aid measures****General Advice:**

Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician.

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Eye Contact: Flush eye with water for 15 minutes. Get medical attention if irritation occurs.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Toxic if swallowed. Immediate medical attention is required.

Most important symptoms and effects, both acute and delayed

Symptoms May cause eye/skin irritation. Salivation. Abdominal pain. Nausea. Vomiting. May cause diarrhea. Central nervous system effects. Drowsiness. Headache. Convulsions. tiredness. Skin eruptions. Brittleness/loss of hair and nails. garlic breath. Nose and throat irritation. May cause pulmonary edema. Respiratory depression. Dyspnea (Difficulty breathing and shortness of breath).

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Dry chemical. Carbon dioxide (CO₂). Water spray mist or foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon monoxide; Carbon dioxide; selenium oxides; nitrogen oxides

Specific hazards: May be combustible at high temperatures.

Special Protective Actions for Firefighters

Specific Methods: No information available.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Avoid dust formation. Remove all sources of ignition.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not ingest. Do not breathe vapours/dust. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep refrigerated. Keep at temperatures between 2 and 8 °C. Store away from incompatible materials.

Incompatible Materials:

Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
L-Selenomethionine - 3211-76-5	None	None	None	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
L-Selenomethionine - 3211-76-5	None	None	None	None

Australia and Mexico

Components	Australia	Mexico
L-Selenomethionine 3211-76-5	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:	Goggles.
Skin and body protection:	Long sleeved clothing. Chemical resistant apron. Gloves.
Respiratory protection:	Wear respirator with dust filter..
Hygiene measures:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid.	Appearance: Crystals. Crystalline powder.	Color: White.
Odor: Characteristic. Garlic.	Taste No information available	Formula: C5-H11-N-O2-Se
Molecular/Formula weight: 196.11	Flash point (°C): No data available	Flashpoint (°C/°F): No information available.
Flash Point Tested according to: Not available	Lower Explosion Limit (%): No information available	Upper Explosion Limit (%): No information available
Autoignition Temperature (°C/°F): No information available	pH: No information available	Melting point/range(°C/°F): No information available
Boiling point/range(°C/°F): No information available	Decomposition temperature(°C/°F): 265-267 °C/509-513 °F	Specific gravity: No information available
Density (g/cm3): No information available	Bulk density: No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available	Viscosity: No information available
Miscibility: No information available	Solubility: No information available	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents

Chemical stability

Stability: Stable at normal conditions

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Avoid dust formation. Incompatible materials.

Incompatible Materials: Strong oxidizing agents.

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. Nitrogen oxides (NOx). Selenium oxides.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation.

Acute Toxicity

Component Information

L-Selenomethionine - 3211-76-5

- LD50/oral/rat** = No information available
- LD50/oral/mouse** = No information available
- LD50/dermal/rabbit** = No information available
- LD50/dermal/rat** = No information available
- LC50/inhalation/rat** = No information available
- LC50/inhalation/mouse** = No information available
- Other LD50 or LC50 information** = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation.

Inhalation Toxic by inhalation. May cause irritation of respiratory tract. Dust from L-selenomethionine (a selenium compound) may cause respiratory tract and mucous membrane irritation with coughing sneezing, breathing difficulty and headache. Inhalation of dust from selenium compounds or selenium fume can also be irritating to the nose and throat, and can cause pulmonary edema, delayed in onset by 1 to 4 hours. Inhalation of selenium fumes can cause bronchospasm, chills, fever, headache, and chemical pneumonitis, symptoms similar to those of metal fume fever.

Ingestion Toxic if swallowed. May cause irritation of the gastrointestinal tract with nausea, abdominal pain, vomiting, diarrhea, hypersalivation, garlic breath. May affect, behavior/central nervous system (somnolence, nervousness, convulsions, headache, tiredness), respiration (dyspnea), cardiovascular system (cardiovascular collapse), respiration (respiratory depression).

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated contact may cause dry, red, scaly, itchy, papular dermatitis or may be associated with secondary infections. Chronic exposure to from dust or fumes of selenium or selenium compounds fume cause ROSE EYE, a pink allergy of the eyelids often accompanied by swelling. Long term exposure to high dust concentrations may also cause changes in lung function. Chronic exposure to selenium or selenium compounds has been associated with a garlic odor of the breath, a metallic taste, gastrointestinal disturbances (nausea, vomiting), bronchitis, irritation of the nose and throat, skin eruptions, discoloration of skin, decayed bad teeth, loss/damage (brittleness) of nails and hair, pallor, lassitude, fatigue, irritability, giddiness, convulsions, nervousness, drowsiness, and possible kidney damage or liver damage (increase in hepatic enzymes, fatty degeneration, cirrhosis), weight loss. Chronic exposure can also produce symptoms that include coating of the tongue, anemia, lumbar pain, spleen damage. Note: Ingestion of approximately 5 mg per day of selenium has caused hair and nail damage, neurological and gastrointestinal symptoms, and (occasionally) jaundice and dermatitis.

Note: The mean LOAEL for dietary selenium was calculated as approximately 1540 +/- 653 mcg/day (28 mcg/kg body weight). The maximum safe dietary level was calculated to be 819 +/- 125 mcg/day (15 mcg/kg) (Whanger et al, 1996).

Sensitization: No information available

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
L-Selenomethionine	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.
Target Organs: Liver.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.
Persistence and degradability: No information available
Bioaccumulative potential: No information available
Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
 Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
 Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
L-Selenomethionine	None	None	None	None

14. TRANSPORT INFORMATION

DOT
UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.(L-Selenomethionine)
Hazard Class: 6.1
Subsidiary Risk: Not applicable
Packing Group: III
Marine Pollutant No data available
ERG No: 151
DOT RQ (lbs): No information available
Symbol(s): G

TDG (Canada)
UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: No information available

14. TRANSPORT INFORMATION

ADR

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
EMS: F-A
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: 6.1
Packing Group: III
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: No information available

IATA

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 6L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>L-Selenomethionine</i>	Not Listed	Not present	Not present	Not present	Not present	Not present	Not present

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
L-Selenomethionine	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
L-Selenomethionine	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
L-Selenomethionine	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

D1A Very toxic materials

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

Components	Canada (DSL)	Canada (NDSL)
L-Selenomethionine	Not Listed	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
L-Selenomethionine	Not listed	Not listed

EU Classification

R-phrases(s)

R33 - Danger of cumulative effects.

R23/25 - Toxic by inhalation and if swallowed.

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S -phrase(s)

S28 - After contact with skin, wash immediately with plenty of .?

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S60 - This material and its container must be disposed of as hazardous waste.

S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

S 1/2 - Keep locked up and out of the reach of children.

S20/21 - When using, do not eat, drink or smoke.

Components	Classification	Concentration Limits:	Safety Phrases
L-Selenomethionine	T; R23/25 R33 N; R50/53	No information	S: (1/2)-20/21-28-45-60-61

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

T - Toxic

N - Dangerous for the environment.

T



N

**16. OTHER INFORMATION**

16. OTHER INFORMATION

NFPA	HMIS	Personal Protective Equipment
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Health Hazard	2
Fire Hazard	1
Reactivity	0



See Section 8.

Preparation Date: 6/17/2014
Revision Date: 6/17/2014
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Material Safety Data Sheet