

**Product Name:** Sodium Selenite

**Ref. No.:** GDXD-SDS-009

**Issue Date:** Jan 07, 2016

**Version No.:** A/1

This SDS is revised in accordance with the requirements of GHS of United Nations (Fifth revised edition) and GB/T17519-2013.

## 1. Product and Company Identification

### Product Identification

<b>Product Name</b>	Sodium Selenite
<b>Molecular Formula</b>	Na <sub>2</sub> SeO <sub>3</sub>

### Recommended Application and Restricted Application of the Product

<b>Recommended Application</b>	Used as glass decolourizing agent, alkaloid reagent or feed additives.
<b>Restricted Application</b>	No data available

### MSDS Provider Identification

<b>Distributor Name</b>	Pestell Minerals & Ingredients Inc.
<b>Distributor Address</b>	141 Hamilton Road, New Hamburg, ON - Canada
<b>Postcode</b>	N3A 2H1
<b>Emergency Response</b>	CANUTEC (24 hs)
<b>Phone Number</b>	613-996-6666
<b>Distributor Phone</b>	(1) 519-662-2877
<b>E-mail Address</b>	qa@pestell.com

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# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

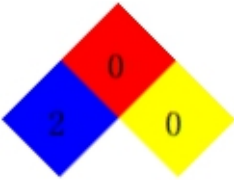




Version: A/1

## US Emergency Telephone

Associated Agency	CUSTOMER NO	Emergency Telephone
CHEMTREC(Chemical Transportation Emergency Center)	#204413	1-800-424-9300 (US ONLY)

## 2. Hazards Identification



### NFPA Hazard Identification Label

Hazard Identification Label	Hazard Category	Hazard Class	Hazard Description
	 Health Hazard	2	When concentration is high, causes lasting harm.
	 Flammability	0	Non-flammable in air
	 Reactivity	0	Stable under normal conditions
	 Special Hazard	No	No

### GHS Hazard Category

Description	Applicable to
Acute Toxicity-Oral	Category 2
Acute Toxicity-Inhalation	Category 3
Skin Sensitization	Category 1
Hazard to Aquatic Life - Acute Toxicity	Category 2
Hazard to Aquatic Life - Chronic Toxicity	Category 2

### GHS Pictogram

Pictogram	 	
Pictogram Number	GHS06	GHS09

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

Signal Word	DANGER
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## Signal Word/Hazard Statements (GHS):

Code	Description
Signal Word: DANGER	
H300	Fatal if swallowed
H331	Toxic if inhaled
H317	May cause an allergic reaction
H411	Toxic to aquatic life with long lasting effects

## Precautionary Statements

### Precautionary Measures (GHS):

Code	Description
P233	Keep container tightly closed.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash the whole body thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

### Response Precautionary Statements (GHS):

P301+P310	If swallowed: Immediately call a poison center/doctor.
P304+P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
P304+P311	If inhaled: Call a poison center/doctor.
P302+P352	If on skin: wash with plenty of water.
P321	Specific treatment (see First-aid Measures on this SDS).
P330	Rinse mouth.

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

<b>P333+P313</b>	If skin irritation or rash occurs: Get medical advice/attention.
<b>P362+364</b>	Take off contaminated clothing and wash it before reuse.
<b>P391</b>	Collect spillage.

## Safe Storage (GHS):

<b>P403+P233</b>	Store in a well-ventilated place. Keep container tightly closed.
<b>P405</b>	Store locked up.

## Disposal (GHS):

<b>P501</b>	Disposal of contents/containers in accordance with local regulations.
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## Hazard Description:

<b>Physical and Chemical Hazards</b>	In acid solution, forms sodium hydrogen selenite, which is more toxic and classified as extremely toxic chemical substance in China. In contact with strong acid, releases selenium dioxide gas.
<b>Health Hazards</b>	Human ingesting 1g of this substance orally can cause poisoning death. Acute toxicity symptoms: Upper respiratory tract/eye/membrane irritation, headache, dizziness, expiratory air with garlic smell, etc. Causes dermatitis in contact with skin.
<b>Environment Hazards</b>	This substance is toxic to aquatic life, and may bio-accumulate in fish and plants along with the food chain.

## 3. Composition/Information on Ingredients

Ingredients	CAS No.	Concentration or Range of Concentration
Sodium Selenite	10102-18-8	≥98% (dry base calculation); Se≥44.7% (dry base calculation)

## 4. First-aid Measures

### First-aid measures description

<b>General Advice</b>	Usually first-aid is needed. Please show this SDS to the doctor at the site.
<b>Inhalation</b>	Remove person to fresh air, and keep respiratory tract unobstructed. Perform oxygen therapy if victim has breathing difficulty. Perform cardio-pulmonary resuscitation immediately if victim's breath or heartbeat stops. Seek medical treatment.

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

<b>Skin Contact</b>	Take off contaminated clothing and rinse skin with soap water and clean water. Seek medical treatment if victim feels unwell.
<b>Eye Contact</b>	Open eyelid and rinse with running clean water or normal saline for at least 15 minutes. Seek medical treatment.
<b>Ingestion</b>	Do not feed anything to unconscious victim through mouth. Rinse mouth with water. Seek doctor advice.

## Most Important Symptoms/Effects, Acute and Delayed

1	Salivation, trembling, alopecia, emesis
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## Instructions for Emergency Medical Treatment and Specific Treatment

1	No data available
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## 5. Fire-Fighting Measures

### Extinguishing Media

<b>Suitable Media</b>	Spray water, foam, carbon dioxide, dry sand, special powder
<b>Unsuitable Media</b>	No data available

### Specific Hazards Arising from the Chemical

1	Non-flammable. Decomposes and releases toxic gas when heated.
2	Hazardous combustion product: selenium oxide, sodium oxide, selenium

### Fire-fighting Precautions and Protective Measures

1	Wear full-body fire-proof anti-gas suit.
2	Extinguish fire upwind and choose suitable extinguish method according to the surroundings.
3	If possible, remove containers to open air away from fire.
4	Evacuate people in contaminated zone to safety place rapidly and restrict the entrance.

## 6. Accidental Release Measures

### Personal Precautions, Protective Equipment and Emergency Procedures

1	Protective equipment is needed. Do not breathe vapour or dust. Avoid skin contact and eye contact.
2	Isolate the contaminated zone and restrict the entrance.
3	See Part 8 for personal protection.
4	Do not touch the leakage directly. Stop the leak if possible.

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

## Environmental Precautions and Protective Measures

1	Collect leaks so as to prevent pollution.
2	Prevent leaks from going into sewers, rivers, surface water or underground water.

## Methods and Materials for Containment and Cleaning up

1	Clean up carefully and do not raise dust. Collect the leaks in bags and take it to safety places.
2	For high quantity leaks, use plastic cloth or canvas to cover the leaks. Collect the leaks for recovery or take it to waste plant for disposal.

## 7. Handling and Storage

### Precautions for Safe Handling

1	Do not eat, drink or smoke while using.
2	Offer sufficient local ventilation. Prevent the dust from releasing to the air in the workshop. Operations should be mechanized and automated where possible.
3	Operators should be specially trained and follow the operation instruction strictly.
4	It is recommended that operators wear dust-proof mask (full face), rubber gloves and protective suit.
5	Handle carefully to avoid packaging damage and container damage. Prepare emergency devices for leaks. Empty containers may still contain harmful residues.
6	Wash hands after handling or contact. Keep the working suit separately and do not bring it home.

### Conditions and Precautions for Safe Storage/Incompatibilities

1	Store it according to local/national regulations.
2	Keep containers away from heat, fire and flame.
3	Do not store it with oxidizer and acid. Handle carefully to avoid packaging and container damage.
4	Prepare suitable fire-fighting equipments in the storage area.
5	Prepare suitable devices in the storage area to collect leaks.
6	Warning signs are needed.

## 8. Exposure Controls/Personal Protection

### Control Parameters

Ingredients	State/ Region	PC-TWA (8h)		PC-STEL (Short Term)		MAC	
		ppm	mg/m <sup>3</sup>	ppm	ppm	mg/m <sup>3</sup>	ppm

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

Sodium Selenite (base on Se)	China	No Spec.	0.1	No Spec.	No Spec.	No Spec.	No Spec.
	US OSHA	No Data Available	No Data Available	No Data Available	No Data Available	No Data Available	No Data Available
	US ACGIH	No Data Available	No Data Available	No Data Available	No Data Available	No Data Available	No Data Available


## Laboratory Detecting Method

1	Hydride Generation-Atomic Absorption Spectrometry
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## Engineering Controls

1	This is highly toxic substance. Separate its workplace from the others.
2	Make sure workplace is well-ventilated and the concentration in air is lower than OEL.
3	Install accidental ventilation facilities.
4	Set up emergency evacuation passageway and necessary risk-elimination area.
5	Set up emergency shower and eye-wash facilities in approachable places.
6	Set up red zone attention line, warning signs and alarm system.

## Individual Protection

<b>General Requirements</b>	
<b>Eye Protection</b>	See Respiratory System Protection.
<b>Hand Protection</b>	Wear chemical protective gloves which are approved by official organizations like NIOSH (US) or EN166 (EU).
<b>Respiratory System Protection</b>	Wear dust-proof mask (full face) when you may be exposed to the dust. Wear respirators in emergency rescue or emergency evacuation.
<b>Skin and Body Protection</b>	Wear rubberized fabric protective overalls. (Consult with the supplier for further advices.)
<b>Others</b>	Do not eat, drink or smoke in the workplace. Take a shower and change clothing after work. Do not take the working suits to other places. Keep contaminated clothing separately and wash it before reuse. Keep good health habit.

## 9. Physical and Chemical Properties

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

## Physical Properties

<b>Appearance</b>	White or off-white crystalline powder
<b>Odour</b>	No
<b>Odour Threshold</b>	No data available
<b>pH Value</b>	Weakly alkaline
<b>Melting Point/Freezing Point (°C)</b>	350
<b>Initial Boiling Point and Boiling Range (°C)</b>	No data available
<b>Flash Point (°C)</b>	No data available
<b>Evaporation Rate</b>	No data available
<b>Flammability (Solid, Gas)</b>	No data available
<b>Upper Explosive Limit</b>	No data available
<b>Lower Explosive Limit</b>	No data available
<b>Saturated Vapor Pressure (kPa)</b>	No data available
<b>Relative Density (Water=1.0)</b>	5.96
<b>Relative Vapor Density (Air=1.0)</b>	No data available
<b>Solubility</b>	Soluble in water, non-soluble in alcohol
<b>Partition Coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition Temperature</b>	No data available
<b>Decomposition Temperature (°C)</b>	No data available
<b>Viscosity</b>	No data available

## 10. Stability and Reactivity



# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

<b>Chemical Stability</b>	Stable under recommended storage and handling conditions (see Part 7).
<b>Possibilities of Hazardous Reactions</b>	No polymerization is available.
<b>Conditions to Avoid</b>	Heat, humid air
<b>Incompatible Materials</b>	Strong oxidizer, strong acid
<b>Hazardous Decomposition Products</b>	No data available

## 11. Toxicological Information

### Acute Toxicity

Ingredients	CAS No.	LD50 (Oral)	LD50 (Dermal)	LC50 (Inhalation)
Sodium Selenite	10102-18-8	7 mg/kg (rat) 7 mg/kg (mouse)	No data available	No data available

### Other Information

<b>Skin Corrosion/Irritation</b>	No data available
<b>Respiratory or Skin Sensitization</b>	No data available
<b>Serious Eye Damage/Eye Irritation</b>	No data available
<b>Germ Cell Mutagenicity</b>	Mutagenic effect is found in lab.
<b>Carcinogenicity</b>	This substance is not classified as carcinogens by IARC, ACGIH, EPA or NTP.
<b>Reproductive Toxicity</b>	No data available
<b>Specific Target Organ Toxicity-Single Exposure</b>	No data available
<b>Specific Target Organ Toxicity-Repeated Exposure</b>	No data available

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

<b>Aspiration Toxicity</b>	No data available
<b>Others</b>	No data available

## 12. Ecological Information

### Acute Toxicity

Ingredients	CAS No.	Fish	Crustacea	Alga/ Aquatic Plant
Sodium Selenite	10102-18-8	Oncorhynchus mykiss - 2.75 mg/l - 96.0 h	NOEC Daphnia magna - 0.24 mg/l - 21 d	No data available

### Other Information

<b>Persistence and Degradability</b>	No data available
<b>Bioconcentration or Bioaccumulation</b>	Lepomis macrochirus - 120 d -10 µg/l Bioconcentration factor (BCF): 1,850
<b>Mobility in Soil</b>	No data available
<b>PBT and vPvB Assessment</b>	No data available
<b>Other Adverse Effects</b>	Very toxic to aquatic life with long lasting effects.

## 13. Disposal Considerations

### Disposal

<b>Product</b>	Return left product or unused product to supplier or transfer it to authorized institute for disposal. Do not dispose it without authorization.
<b>Contaminated Packaging</b>	Follow related local laws and regulations. Also follow relevant local laws and regulations to dispose empty containers because they may still contain product residual.
<b>Disposal Precautions</b>	Consult with supplier for further advices. Read related state and local laws and regulations before disposal. See Part 8 for disposal personnel safety precautions.



# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

## 14. Transport Information

### Packing Label

Packing Label	 
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### Packing Method

Pack with plastic bags/bottles as inner packaging and put in open iron drums/fiber paper drums/plastic drums; Seal the packaging well.

### Road Transport (UN-ADR)

UN No.	2630
UN Proper Shipping Name	SELENATES or SELENITES
Main Transport Hazard Class	6.1
Minor Transport Hazard Class	No
Packing Group	I
Special Transport Regulations	274
Limited Quantity	0
Excepted Quantity	E5

### Marine Transport (IMDG-CODE)

UN No.	2630
UN Proper Shipping Name	SELENATES or SELENITES
Main Transport Hazard Class	6.1
Minor Transport Hazard Class	No
Packing Group	I
Special Transport Regulations	274
Limited Quantity	0
Excepted Quantity	E5
Marine Pollutant (Yes/No)	No
EmS No.	F-A S-A

### Air Transport (ICAO/IATA-DG)

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

UN No.	2630
UN Proper Shipping Name	SELENATES or SELENITES
Main Transport Hazard Class	6.1
Minor Transport Hazard Class	No
Packing Group	I
Excepted Quantity	E5
Limited Quantity Packing Guideline for Passenger Transport and Freight Transport	Forbidden
Maximum Net Weight of Single Cargo for Limited Quantity Transport in Passenger Transport and Freight Transport	Forbidden
Packing Rules in Passenger Transport and Freight Transport	606
Maximum Net Weight of Single Cargo in Passenger Transport and Freight Transport	5Kg
Packing Guideline for Freight Transport	607
Maximum Net Weight of Single Cargo in Freight Transport	50kg
Special Transport Regulations	No
ERG Code	6L

## Transport Precautions

1	Load the good in strict accordance with Dangerous Goods Loading Table in Transportation Of Dangerous Goods Code in railway transport.
2	In road transport, transport vehicles must drive on indicated routes, and do not stay in residential areas and densely populated areas.
3	Before transport, check the packaging and containers and make sure they are undamaged and sealed well. Prevent the containers from leaking, collapsing, falling and damaging in transport.
4	Do not transport it together with acid, oxidizer, food or food additive.
5	Prevent it from exposing to sunshine and rain, and keep it away from heat.

## 15. Regulatory Information

### Chinese Chemicals Management Directory (Sodium Selenite)

Inventory of Existing Chemical Substances in China (2013)	Classified
Inventory of Hazardous Chemicals in China (2015)	Classified

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

Management Regulations of the People's Republic of China on Monitored and Controlled Chemicals	Not classified
Inventory of Explosive Hazardous Chemicals	Not classified
Inventory of Toxic Chemicals under Strict Restraint on Import and Export in China	Not classified
Inventory of Ozone Layer Depleting Substances under Import and Export Control in China	Not classified
List of Allowed Additives for Food Containers and Packaging Materials in China	Not classified

**This SDS complies with the following national standards of People's Republic of China:**

GB16483-2008、GB13690—2009、GB/T15098-2008、GB18218-2009、GB6944-2012、GB190—2009、GB191—2009、GB12268-2012、GBZ21-2007、GB30000。

## Hazard Classification

Description	Application
Classification (China)	Classified as toxic substance in General Rule for Classification and Hazard Communication of Chemicals (GB13690-2009)
Classification (China)	Classified as category 9.1 toxic substance in Classification and Code of Dangerous Good (GB6944-2012)
Regulations on Hazardous Chemicals	Regulations on Safety Management of Hazardous Chemicals (Issued on December 1, 2011) stipulate the requirements on safety production, safety uses, storage, transportation, handling, etc. of hazardous chemicals.

## 16. Other Information

**Hazard Classification according to EU directive 67/548/EEC or 1999/45/EC**

Risk Phrases (EU)	
Code	Description
R23	Toxic by inhalation.
R28	Very toxic if swallowed.
R31	Contact with acids liberates toxic gas.
R43	May cause sensitization by skin contact.
R36/37/38	Irritating to eyes, respiratory system and skin.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

Safety phrase (EU)	
Code	Description
S01	Keep locked up.
S20/21	When using do not eat, drink or smoke.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28	After contact with skin, wash immediately with plenty of ... (to be specified by the manufacturer).
S36/37	Wear suitable protective clothing and gloves.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S60	This material and/or its container must be disposed of as hazardous waste.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

## Pictogram (EU)



## Reference

- 【1】 International Chemical Safety Cards (ICSC) database, International Programme on Chemical Safety, website:  
<http://www.ilo.org/dyn/icsc/showcard.home>
- 【2】 International Agency for Research on Cancer, website: <http://www.iarc.fr>
- 【3】 The Global Portal to Information on Chemical Substances, Organization for Economic Co-operation and Development (OECD), website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- 【4】 US CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- 【5】 Chemical Database, US National Library of Medicine, website:  
<http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- 【6】 Integrated Risk Information System, United States Environmental Protection Agency, website:  
<http://cfpub.epa.gov/iris/>

## Abbreviation

CAS—Chemical Abstracts Service	TSCA—Toxic Substance Control Act
PC-STEL—permissible concentration-Short term exposure limit	PC-TWA—permissible concentration-time weighted average
DNEL—derived no effect level	IARC— Agency for Research on Cancer
RPE—respiratory protective equipment	PNEC—predicted no effect concentration

# Safety Data Sheet (SDS) for Sodium Selenite

Revision Date: Jan 07, 2016

Version: A/1

LC50–50% lethal concentration	LD50–50% lethal dose
NOEC–no observed effect concentration	EC50–50% effective concentration
PBT–persistent, bioaccumulative and toxic	POW–partition coefficient: n-octanol/water
BCF–bioconcentration factor	vPvB–very persistent and very bioaccumulative
CMR–carcinogenic, mutagenic or toxic to reproduction	ICAO/IATA–International Civil Aviation Organization and International Air Transport Association
IMDG–International Marine Dangerous goods	ACGIH–American Conference of Governmental Industrial Hygienists
UN–United Nations	OECD–Organization for Economic Co-operation and Development
NFPA–National Fire Protection Association	

## Disclaimer

This SDS is formulated in accordance with the requirements of GHS of United Nations (fifth revised edition). Its data are from authoritative international databases and information currently available to us. It is believed to be reliable but Pestell Minerals & Ingredients Inc. does not make any warranty either expressed or implied as to its accuracy and completeness. This information is provided to serve as a guide for the safe and proper handling of the product. We assume no liability resulting from its use.

## Revision Information

SN	Revision Date	Revision Department	Revised Content
1	2015/6/16	HSE Department	Revise in accordance with the requirements of GHS of United Nations (Fifth revised edition) and GB/T17519-2013.
2	2015/6/16	System Department	Change the Ref. No. from XD-MSDS-009 to GDXD-SDS-009.

————— This is the end of this SDS. —————