

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 111900-Sodium selenate

Version: 3

Revision date: 20/04/2016



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### SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING.

#### 1.1 Product identifier.

Product Name:	Sodium selenate
Product Code:	111900
Chemical Name:	Sodium selenate
CAS No:	13410-01-0
EC No:	236-501-8
Registration No:	N/D

#### 1.2 Relevant identified uses of the substance and uses advised against.

For manufacturing, processing, laboratory or repacking use only

##### Uses advised against:

Uses other than those recommended.

#### 1.3 Details of the supplier of the safety data sheet.

Company:	<b>DC FINE CHEMICALS Ltd.</b>
Address:	Hill Top, 88
City:	NW11 6DY London (United Kingdom)
Telephone:	+44 (20) 7586 6800
Fax:	+44 (20) 7504 1701
E-mail:	info@dcfinechemicals.com
Web:	www.dcfinechemicals.com

#### 1.4 Emergency telephone number: (Only available during office hours)

### SECTION 2: HAZARDS IDENTIFICATION.

#### 2.1 Classification of the substance.

In accordance with Regulation (EU) No 1272/2008:

Acute Tox. 3 : Toxic if inhaled.

Acute Tox. 3 : Toxic if swallowed or if inhaled.

Aquatic Chronic 1 : Very toxic to aquatic life with long lasting effects.

STOT RE 2 : May cause damage to organs through prolonged or repeated exposure.

#### 2.2 Label elements.

##### Labelling in accordance with Regulation (EU) No 1272/2008:

##### Pictograms:



Signal Word:

**Danger**

H statements:

H301+H331	Toxic if swallowed or if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

P statements:

P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P314	Get medical advice/attention if you feel unwell.
P501	Dispose of contents / container according to the regulation.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.

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P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Contains:  
Sodium selenate

### 2.3 Other hazards.

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment. PBT Substance (Persistent, Bioaccumulative and Toxic) and vPvB (very Persistent and very Bioaccumulative).

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

### 3.1 Substances.

Chemical Name: [2] [3] Sodium selenate  
CAS No: 13410-01-0  
CE No: 236-501-8  
Registration No: N/D  
[2] PBT Substance (Persistent, Bioaccumulative and Toxic.).  
[3] vPvB Substance (very Persistent and very Bioaccumulative).

### 3.2 Mixtures.

Not Applicable.

## SECTION 4: FIRST AID MEASURES.

### 4.1 Description of first aid measures.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

#### Inhalation.

If wearing contact lenses, remove them. If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance.

#### Eye contact.

If wearing contact lenses, remove them. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance.

#### Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. **NEVER** use solvents or thinners.

#### Ingestion.

If accidentally ingested, seek immediate medical attention. Keep calm. **NEVER** induce vomiting.

### 4.2 Most important symptoms and effects, both acute and delayed.

Toxic Product, accidental contact may result in serious respiratory difficulties, alteration of the central nervous system and in extreme cases, unconsciousness. Immediate medical assistance is required.

### 4.3 Indication of any immediate medical attention and special treatment needed.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

## SECTION 5: FIREFIGHTING MEASURES.

### 5.1 Extinguishing media.

#### Recommended extinguishing methods.

Extinguisher powder or CO<sub>2</sub>. In case of more serious fires, also alcohol-resistant foam and water spray. Do not use a direct stream of water to extinguish.

### 5.2 Special hazards arising from the substance.

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### Special risks.

Fire can cause thick, black smoke. As a result of thermal decomposition, dangerous products can form: carbon monoxide, carbon dioxide. Exposure to combustion or decomposition products can be harmful to your health.

### **5.3 Advice for firefighters.**

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways.

### **Fire protection equipment.**

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and gloves.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES.**

### **6.1 Personal precautions, protective equipment and emergency procedures.**

For exposure control and individual protection measures, see section 8.

### **6.2 Environmental precautions.**

Product Dangerous for the environment, in case of large spills or if the product contaminates lakes, rivers, or sewers, inform the responsible authorities according to local legislation. Prevent the contamination of drains, surface or subterranean waters, and the ground.

### **6.3 Methods and material for containment and cleaning up.**

The contaminated area should be immediately cleaned with an appropriate de-contaminator. Pour the decontaminator on the remains in an opened container and let it act various days until no further reaction is produced.

### **6.4 Reference to other sections.**

For exposure control and individual protection measures, see section 8.

For later elimination of waste, follow the recommendations under section 13.

## **SECTION 7: HANDLING AND STORAGE.**

### **7.1 Precautions for safe handling.**

For personal protection, see section 8. Never use pressure to empty the containers. They are not pressure-resistant containers.

In the application area, smoking, eating, and drinking must be prohibited.

Follow legislation on occupational health and safety.

Keep the product in containers made of a material identical to the original.

### **7.2 Conditions for safe storage, including any incompatibilities.**

Store according to local legislation. Observe indications on the label. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorised persons. Once the containers are open, they must be carefully closed and placed vertically to prevent spills.

Classification and threshold amount of storage in accordance with Annex I to Directive 2012/18/EU (SEVESO III):

		Qualifying quantity (tonnes) for the application of	
Code	Description	Lower-tier requirements	Upper-tier requirements
H2	ACUTE TOXIC	50	200

### **7.3 Specific end use(s).**

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.**

### **8.1 Control parameters.**

The product does NOT contain substances with Professional Exposure Environmental Limit Values. The product does NOT contain substances with Biological Limit Values.

### **8.2 Exposure controls.**

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### Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

<b>Concentration:</b>		<b>100 %</b>				
<b>Uses:</b>		<b>For manufacturing, processing, laboratory or repacking use only</b>				
<b>Breathing protection:</b>						
If the recommended technical measures are observed, no individual protection equipment is necessary.						
<b>Hand protection:</b>						
PPE:	Protective gloves.					
Characteristics:	«CE» marking, category II.					
CEN standards:	EN 374-1, En 374-2, EN 374-3, EN 420					
Maintenance:	Keep in a dry place, away from any sources of heat, and avoid exposure to sunlight as much as possible. Do not make any changes to the gloves that may alter their resistance, or apply paints, solvents or adhesives.					
Observations:	Gloves should be of the appropriate size and fit the user's hand well, not being too loose or too tight. Always use with clean, dry hands.					
Material:	PVC (polyvinyl chloride)	Breakthrough time (min.):	> 480	Material thickness (mm):	0,35	
<b>Eye protection:</b>						
PPE:	Face shield.					
Characteristics:	«CE» marking, category II. Face and eye protector against splashing liquid.					
CEN standards:	EN 165, EN 166, EN 167, EN 168					
Maintenance:	Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions. Make sure that mobile parts move smoothly.					
Observations:	Face shields should offer a field of vision with a dimension in the central line of, at least, 150 mm vertically once attached to the frame.					
<b>Skin protection:</b>						
PPE:	Protective clothing.					
Characteristics:	«CE» marking, category II. Protective clothing should not be too tight or loose in order not to obstruct the user's movements.					
CEN standards:	EN 340					
Maintenance:	In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer.					
Observations:	The protective clothing should offer a level of comfort in line with the level of protection provided in terms of the hazard against which it protects, bearing in mind environmental conditions, the user's level of activity and the expected time of use.					
PPE:	Work footwear.					
Characteristics:	«CE» marking, category II.					
CEN standards:	EN ISO 13287, EN 20347					
Maintenance:	This product adapts to the first user's foot shape. That is why, as well as for hygienic reasons, it should not be used by other people.					
Observations:	Work footwear for professional use includes protection elements aimed at protecting users against any injury resulting from an accident					

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

### 9.1 Information on basic physical and chemical properties.

Appearance: Solid

Colour: N.A./N.A.

Odour: N.A./N.A.

Odour threshold: N.A./N.A.

pH: N.A./N.A.

Melting point: N.A./N.A.

Boiling Point: N.A./N.A.

Flash point: N.A./N.A.

Evaporation rate: N.A./N.A.

Inflammability (solid, gas): N.A./N.A.

Lower Explosive Limit: N.A./N.A.

Upper Explosive Limit: N.A./N.A.

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Vapour pressure: N.A./N.A.  
Vapour density: N.A./N.A.  
Relative density: 3,2 g/cm<sup>3</sup>  
Solubility: N.A./N.A.  
Liposolubility: N.A./N.A.  
Hydrosolubility: N.A./N.A.  
Partition coefficient (n-octanol/water): N.A./N.A.  
Auto-ignition temperature: N.A./N.A.  
Decomposition temperature: N.A./N.A.  
Viscosity: N.A./N.A.  
Explosive properties: N.A./N.A.  
Oxidizing properties: N.A./N.A.  
N.A./N.A. = Not Available/Not Applicable due to the nature of the product

### 9.2. Other information.

## SECTION 10: STABILITY AND REACTIVITY.

### 10.1 Reactivity.

The product does not present hazards by their reactivity.

### 10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

### 10.3 Possibility of hazardous reactions.

The product does not present possibility of hazardous reactions.

### 10.4 Conditions to avoid.

Avoid any improper handling.

### 10.5 Incompatible materials.

Keep away from oxidising agents and from highly alkaline or acidic materials in order to prevent exothermic reactions.

### 10.6 Hazardous decomposition products.

No decomposition if used for the intended uses.

## SECTION 11: TOXICOLOGICAL INFORMATION.

### 11.1 Information on toxicological effects.

Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin.  
Splatters in the eyes can cause irritation and reversible damage.

### Toxicological information.

Name	Acute toxicity			
	Type	Test	Kind	Value
Sodium selenate	Oral	DL50	Rat	1.6 mg/kg
	Dermal			
	Inhalation			
CAS No: 13410-01-0    EC No: 236-501-8				

a) acute toxicity;

Product classified:

Acute toxicity (Inhalation), Category 3: Toxic if inhaled.

Acute toxicity (Oral), Category 3: Toxic if swallowed.

b) skin corrosion/irritation;

Not conclusive data for classification.

c) serious eye damage/irritation;

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Not conclusive data for classification.

d) respiratory or skin sensitisation;  
Not conclusive data for classification.

e) germ cell mutagenicity;  
Not conclusive data for classification.

f) carcinogenicity;  
Not conclusive data for classification.

g) reproductive toxicity;  
Not conclusive data for classification.

h) STOT-single exposure;  
Not conclusive data for classification.

i) STOT-repeated exposure;  
Product classified:  
Specific target organ toxicity following a repeated exposure, Category 2: May cause damage to organs through prolonged or repeated exposure.

j) aspiration hazard;  
Not conclusive data for classification.

### SECTION 12: ECOLOGICAL INFORMATION.

#### 12.1 Toxicity.

No information is available regarding the ecotoxicity.

#### 12.2 Persistence and degradability.

PBT Substance (Persistent, Bioaccumulative and Toxic) and vPvB (very Persistent and very Bioaccumulative).

#### 12.3 Bioaccumulative potencial.

No information is available regarding the bioaccumulation.

#### 12.4 Mobility in soil.

No information is available about the mobility in soil.  
The product must not be allowed to go into sewers or waterways.  
Prevent penetration into the ground.

#### 12.5 Results of PBT and vPvB assessment.

PBT Substance (Persistent, Bioaccumulative and Toxic) and vPvB (very Persistent and very Bioaccumulative), according to assessment made in the Chemical Safety Report, substance meets criteria to be considered PBT and vPvB.

#### 12.6 Other adverse effects.

No information is available about other adverse effects for the environment.

### SECTION 13 DISPOSAL CONSIDERATIONS.

#### 13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.  
Follow the provisions of Directive 2008/98/EC regarding waste management.

### SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

**Land:** Transport by road: ADR, Transport by rail: RID.

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Transport documentation: Consignment note and written instructions

**Sea:** Transport by ship: IMDG.

Transport documentation: Bill of lading

**Air:** Transport by plane: ICAO/IATA.

Transport document: Airway bill.

### 14.1 UN number.

UN No: UN2630

### 14.2 UN proper shipping name.

Description: UN 2630, SELENATES, 6.1, PG I, (C/E)

### 14.3 Transport hazard class(es).

Class(es): 6.1

### 14.4 Packing group.

Packing group: I

### 14.5 Environmental hazards.

Marine pollutant: Yes



Dangerous for the environment

### 14.6 Special precautions for user.

Labels: 6.1



Hazard number: 66

ADR LQ: 0

Provisions concerning carriage in bulk ADR: Not authorized carriage in bulk in accordance with ADR.

Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): F-A,S-A

Proceed in accordance with point 6.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.

The product is not transported in bulk.

## SECTION 15: REGULATORY INFORMATION.

### 15.1 Safety, health and environmental regulations/legislation specific for the substance.

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

See annex I of the Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances and the Regulation (EC) No 689/2008 of the European Parliament and of the Council of 17 June 2008 concerning the export and import of dangerous chemicals and its subsequent updates.

Product classification according to Annex I of Directive 2012/18/EU (SEVESO III): H2

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

### 15.2 Chemical safety assessment.

There has been no evaluation a chemical safety assessment of the product.

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### SECTION 16: OTHER INFORMATION.

Classification codes:

Acute Tox. 3 [Inhalation] : Acute toxicity (Inhalation), Category 3  
Acute Tox. 3 [Oral] : Acute toxicity (Oral), Category 3  
Aquatic Acute 1 : Acute toxicity to the aquatic environment, Category 1  
Aquatic Chronic 1 : Chronic effect to the aquatic environment, Category 1  
STOT RE 2 : Specific target organ toxicity following a repeated exposure, Category 2

Sections changed compared with the previous version:

1,2,14,16

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

#### **Labelling in accordance with Directive 67/548/EEC:**

Symbols:



Toxic



Dangerous for the environment

R Phrases:

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 Phrases:

S28 After contact with skin, wash immediately with plenty of ... (to be specified by the manufacturer).  
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.  
S20/21 When using do not eat, drink or smoke.

Contains:

Sodium selenate

Abbreviations and acronyms used:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.  
CEN: European Committee for Standardization.  
PPE: Personal protection equipment.  
IATA: International Air Transport Association.  
IMDG: International Maritime Code for Dangerous Goods.  
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>

<http://echa.europa.eu/>

Regulation (EU) 2015/830.

Regulation (EC) No 1907/2006.

Regulation (EU) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

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The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.

**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

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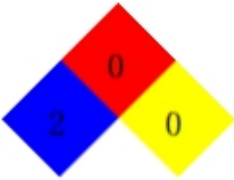
Version: A/1

## 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

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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.

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<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.

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<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.

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## 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

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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



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## 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

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<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

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<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.



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## 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)

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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

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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.

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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.chemportal.org/chemportal/index?pageID=0&request\\_locale=en](http://www.chemportal.org/chemportal/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

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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. —————