

Trade name: SODIUM SELENATE**Current version :** 10.0.0, issued: 27.11.2020**Replaced version:** 9.0.0, issued: 19.11.2018**Region:** GB**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name****SODIUM SELENATE**

Substance name	sodium-selenate
REACH registration no.	01-2120772103-63-0001

Identification numbers

CAS no.	13410-01-0
EC no.	236-501-8
Index no.	034-002-00-8

1.2 Relevant identified uses of the substance or mixture and uses advised against**Relevant identified uses of the substance or mixture**

Used in fertiliser

Uses advised against

No data available.

Reference to relevant exposure scenarios

For an overview of the exact titles of the relevant exposure scenarios please refer to section 16 of this SDS.

1.3 Details of the supplier of the safety data sheet**Address**RETORTE GmbH Selenium Chemicals and Metals
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Advice on Safety Data Sheet

selen@retorte.de

1.4 Emergency telephone number

+49 (0)152 09 87 2013, +49 (0)173 387 35 93

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Acute Tox. 2; H300

Acute Tox. 2; H330

Aquatic Acute 1; H400

Aquatic Chronic 1; H410

Skin Irrit. 2; H315

STOT RE 2; H373

Classification information

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3 and 4 of Annex I to CLP.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)****Product identifier**

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13410-01-0 (sodium-selenate)

Hazard pictograms

GHS06



GHS07



GHS08



GHS09

Signal word

Danger

Hazard statement(s)

H300+H330	Fatal if swallowed or if inhaled
H315	Causes skin irritation.
H373	May cause damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P273	Avoid release to the environment.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER/doctor.
P391	Collect spillage.
P501	Dispose of contents/container to a facility in accordance with local and national regulations.

2.3 Other hazards

PBT assessment

The product is not considered to be a PBT.

vPvB assessment

The product is not considered to be a vPvB.

SECTION 3: Composition/information on ingredients**3.1 Substances****Chemical characterization**

Substance name	sodium-selenate
Formula	Na ₂ Se O ₄
Molecular weight	188.94

Identification numbers

CAS no.	13410-01-0
EC no.	236-501-8
Index no.	034-002-00-8

3.2 Mixtures

Not applicable. The product is not a mixture.

SECTION 4: First aid measures**4.1 Description of first aid measures****General information**

Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing. In case of accident or if you feel unwell, seek medical advice immediately. If the patient is likely to become unconscious, place and transport in stable sideways position.

After inhalation

Remove affected person from the immediate area. Ensure supply of fresh air. Irregular breathing/no breathing: artificial respiration. Call a doctor immediately.

After skin contact

When in contact with the skin, clean with soap and water.

After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Seek medical assistance.

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Call in a physician immediately and show him the Safety Data Sheet. Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

Unsuitable extinguishing media

Water

5.2 Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible.

5.3 Advice for firefighters

The product is highly hygroscopic. Use self-contained breathing apparatus. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations. Wear protective clothing.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Refer to protective measures listed in sections 7 and 8. Remove persons to safety. Avoid dust formation. Use breathing apparatus if exposed to vapours/dust/aerosol.

For emergency responders

Personal protective equipment (PPE) - see section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up mechanically. Send in suitable containers for recovery or disposal.

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling**

Provide good ventilation at the work area (local exhaust ventilation, if necessary). Avoid the formation and deposition of dust. If workplace exposure limits are exceeded, respiratory protection approved for this particular job must be worn.

General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Do not inhale dust. Store work clothing separately. Avoid contact with eyes and skin. Provide eye wash fountain in work area. Have emergency shower available.

Advice on protection against fire and explosion

Avoid formation of dust. Keep away from sources of heat and ignition.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures and storage conditions**

Keep container tightly closed and dry in a cool, well-ventilated place. Protect from atmospheric moisture and water.

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Product is hygroscopic.

Requirements for storage rooms and vessels

Store product in closed containers. Keep only in the original container.

Incompatible products

Do not store together with foodstuffs. Keep away from water. Do not store together with: Metals which are attacked by an alkaline medium. oxidizing agents

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limit values**

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
List of approved workplace exposure limits (WELs) / EH40			
Selenium and compounds, except hydrogen selenide			
Se			
	WEL long-term (8-hr TWA reference period)	0.1	mg/m ³

DNEL, DMEL and PNEC values**DNEL values (worker)**

No	Substance name	CAS / EC no	
	Route of exposure	Exposure time	Effect
	Value		
1	sodium-selenate	13410-01-0 236-501-8	
	dermal	Long term (chronic)	systemic
	inhalative	Long term (chronic)	systemic
			16.73 mg/kg/day
			0.12 mg/m ³

DNEL value (consumer)

No	Substance name	CAS / EC no	
	Route of exposure	Exposure time	Effect
	Value		
1	sodium-selenate	13410-01-0 236-501-8	
	oral	Long term (chronic)	systemic
	dermal	Long term (chronic)	systemic
	inhalative	Long term (chronic)	systemic
			10.28 µg/kg/day
			10.28 mg/kg/day
			0.036 mg/m ³

PNEC values

No	Substance name	CAS / EC no	
	ecological compartment	Type	Value
1	sodium-selenate	13410-01-0 236-501-8	
	water	fresh water	6.38 µg/L
	water	marine water	4.09 µg/L
	water	fresh water sediment	19.7 mg/kg dry weight
	water	marine water sediment	12.6 mg/kg dry weight
	soil	-	0.105 mg/kg dry weight
	sewage treatment plant	-	10 mg/L
	secondary poisoning	-	2.39 mg/kg food

8.2 Exposure controls**Appropriate engineering controls**

No data available.

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If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn.

Short term: filter apparatus, Filter P3

Eye / face protection

Tightly fitting safety glasses (EN 166).

Hand protection

Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Check in any case suitability of protective glove for the specific workplace conditions (e.g. mechanical resistance, product compatibility, antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves.

Appropriate Material

Neoprene category III, EN 374 AKL, EN388:2003 3121

Other

Acid-resistant protective clothing

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Form/Colour			
Powder			
white			
Odour			
odourless			
Odour threshold			
No data available			
pH value			
Value	9	-	10
Reference temperature			20 °C
Concentration			10 g/l
Boiling point / boiling range			
No data available			
Melting point / melting range			
Value			710 °C
Decomposition point / decomposition range			
No data available			
Flash point			
Not applicable			
Auto-ignition temperature			
No data available			
Oxidising properties			
No data available			
Explosive properties			
Not applicable			
Flammability (solid, gas)			
No data available			
Lower flammability or explosive limits			
No data available			
Upper flammability or explosive limits			

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No data available			
Vapour pressure			
Not applicable			
Vapour density			
No data available			
Evaporation rate			
No data available			
Relative density			
No data available			
Density			
No data available			
Bulk density			
Value	appr. 1000 - 1200 kg/m ³		
Solubility in water			
Value	780 g/l		
Reference temperature	20 °C		
Solubility(ies)			
No data available			
Partition coefficient: n-octanol/water			
No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
Not relevant			
Viscosity			
No data available			

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity**10.1 Reactivity**

No data available.

10.2 Chemical stability

No data available.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

The product is highly hygroscopic. Aqueous solutions react alkaline.

10.5 Incompatible materials

Metals which are attacked by an alkaline medium. Oxidizing agents

10.6 Hazardous decomposition products

At strong heating, decomposition under selenium dioxide formation may occur.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Acute oral toxicity			
No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
LD50		7	mg/kg bodyweight

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Species	rat
Method	OECD 401
Source	CSR

Acute dermal toxicity

No data available

Acute inhalational toxicity

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
LC50		0.052 - 0.51	mg/l
Duration of exposure		4	h
State of aggregation	Dust/mist		
Species	rat		
Method	OECD 403		
Source	CSR		

Skin corrosion/irritation

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
Method	OECD 439		
Source	CSR		
Evaluation	irritant		

Serious eye damage/irritation

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
Method	OECD 437		
Source	CSR		
Evaluation	non-irritant		

Respiratory or skin sensitisation

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
Route of exposure	Skin		
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Germ cell mutagenicity

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
Method	OECD 473		
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Reproduction toxicity

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Carcinogenicity

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

STOT - single exposure

No data available

STOT - repeated exposure

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
Source	CSR		

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Evaluation/classification	The classification is according to the current version of the harmonized classification found in Annex VI of Regulation EC 1272/2008.
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Aspiration hazard

No data available

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
LC50		2060	µg/l
Duration of exposure		96	h
Species with reference to	Pimephales promelas		
Method	Se EPA OPP 72-1		
Source	CSR		

Toxicity to fish (chronic)			
No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
NOEC		10	µg/l
Duration of exposure		258	day(s)
Species with reference to	Lepomis macrochirus		
Method	Se		
Source	CSR		

Toxicity to Daphnia (acute)			
No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
EC50		550	µg/l
Duration of exposure		48	h
Species with reference to	Daphnia magna		
Method	Se EPA 660/3-75-009		
Source	CSR		

Toxicity to Daphnia (chronic)			
No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
NOEC		70	µg/l
Duration of exposure		28	day(s)
Species with reference to	Daphnia magna		
Method	Se OECD 211		
Source	CSR		

Toxicity to algae (acute)			
No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
ErC50		44.24	mg/l
Duration of exposure		72	h
Species with reference to	Pseudokirchneriella subcapitata		
Method	Se OECD 201		
Source	CSR		

Toxicity to algae (chronic)			
No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8

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NOEC	4.57	mg/l
Duration of exposure	72	h
Species	Pseudokirchneriella subcapitata	
Method	OECD 201	
Source	CSR	

Bacteria toxicity

No data available

12.2 Persistence and degradability**Biodegradability**

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
Evaluation		Not applicable for inorganic substances.	

12.3 Bioaccumulative potential**Partition coefficient: n-octanol/water**

No	Substance name	CAS no.	EC no.
1	sodium-selenate	13410-01-0	236-501-8
Not relevant			

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment**Results of PBT and vPvB assessment**

PBT assessment	The product is not considered to be a PBT.
vPvB assessment	The product is not considered to be a vPvB.

12.6 Other adverse effects

No data available.

12.7 Other information**Other information**

Do not discharge into the drains or waters and do not store on public depositories.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Disposal of the product should be carried out in accordance with all applicable regulations following consultation with the responsible local authority and the disposal company in an authorised and suitable disposal facility.

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed of in agreement with the regional waste disposal company.

SECTION 14: Transport information**14.1 Transport ADR/RID/ADN**

Class	6.1
Classification code	T5
Packing group	I
Hazard identification no.	66
UN number	UN2630
Proper shipping name	SELENATES
Tunnel restriction code	C/E
Label	6.1
Environmentally hazardous substance mark	Symbol "fish and tree"

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Class	6.1
Packing group	I
UN number	UN2630
Proper shipping name	SELENATES
EmS	F-A, S-A
Label	6.1
Marine pollutant mark	Symbol "fish and tree"

14.3 Transport ICAO-TI / IATA

Class	6.1
Packing group	I
UN number	UN2630
Proper shipping name	Selenates
Label	6.1

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations****Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)**

In accordance with the REACH regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.

REACH candidate list of substances of very high concern (SVHC) for authorisation

In accordance with article 57 and article 59 of the Reach regulation (EC) 1907/2006, this substance is not considered as subject to listing in annex XIV, inventory of substances requiring authorisation ("Authorization list").

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

The substance is not subject to the provisions of annex XVII (restriction entries) of the Reach regulation (EC) 1907/2006.

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This product is subject to Part I of Annex I, risk category: E1, H2

If the properties of the substance/product give rise to more than one classification, for the purposes of 2012/18/UE, the lowest qualifying quantities set out in Part 1 and Part 2 of Annex I shall apply.

Other regulations

Adhere to the national sanitary and occupational safety regulations when using this product.

15.2 Chemical safety assessment

A chemical safety assessment has been carried out for this substance.

SECTION 16: Other information**Sources of key data used to compile the data sheet:**

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

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Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.
The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

H300	Fatal if swallowed.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.

List of existing exposition scenarios

ES001	Formulation and (re)packing of substance and mixtures - industrial use
ES002	Use in fertilisers - professional use
ES003	Use in fertilisers - professional use
ES004	Fertilizer - consumer use
ES005	Use as intermediate - industrial use

Creation of the safety data sheet

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This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

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