

according to GB/T 16483 and GB/T 17519

Selenium Solid Formulation

				Date of last issue: 2024/04/06 Date of first issue: 2022/11/21
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Selenium Solid Formulation
Other means of identification	:	Coopers Permatrace 3 Year Selenium Pellets for Sheep (47639)
Manufacturer or supplier's de	eta	ils
Company	:	MSD
Address	:	No. 485 Jing Tai Road Pu Tuo District - Shanghai - China 200331
Telephone	:	+1-908-740-4000
Emergency telephone number	:	86-571-87268110
E-mail address	:	EHSDATASTEWARD@msd.com
Recommended use of the ch	em	ical and restrictions on use
Recommended use Restrictions on use	:	Veterinary product Not applicable

2. HAZARDS IDENTIFICATION

Emergency Overview				
Appearance Colour	:	pellets silver grey		
Odour	:	No data available		
Harmful if swallowed.				
GHS Classification				
Acute toxicity (Oral)	:	Category 4		
GHS label elements Hazard pictograms	:			
Signal word	:	Warning		
Hazard statements	:	H302 Harmful if swallowed.		



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Precautionary statements

Prevention:

1

P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Physical and chemical hazards

Not classified based on available information.

Health hazards

Harmful if swallowed.

Environmental hazards

Not classified based on available information.

Other hazards which do not result in classification

Dust contact with the eyes can lead to mechanical irritation. Contact with dust can cause mechanical irritation or drying of the skin. May form explosive dust-air mixture during processing, handling or other means.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Selenium	7782-49-2	>= 2.5 -< 10

4. FIRST AID MEASURES

General advice	:	In the case of accident or if you feel unwell, seek medical ad- vice immediately. When symptoms persist or in all cases of doubt seek medical
		advice.
If inhaled	:	If inhaled, remove to fresh air.
		Get medical attention if symptoms occur.
In case of skin contact	:	In case of contact, immediately flush skin with soap and plenty of water.
		Get medical attention if symptoms occur.
In case of eye contact	:	If in eyes, rinse well with water.
		Get medical attention if irritation develops and persists.
If swallowed	:	If swallowed, DO NOT induce vomiting.
		Get medical attention if symptoms occur.
		Rinse mouth thoroughly with water.



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		nportant symptoms ects, both acute and d	:	the skin.	red. can cause mechanical irritation or drying of the eyes can lead to mechanical irritation.
Protection of first-aiders : First Aid responders should pay a and use the recommended persor			ers should pay attention to self-protection, nmended personal protective equipment I for exposure exists (see section 8).		
5. F	IREFIG	HTING MEASURES			
	Suitabl	e extinguishing media	:	Water spray Alcohol-resistant Carbon dioxide (C Dry chemical	
	Unsuita media	able extinguishing	:	None known.	
	Specific hazards during fire- fighting Hazardous combustion prod- ucts		:	Exposure to comb	oustion products may be a hazard to health.
			:	Metal oxides	
	Specifi ods	c extinguishing meth-	:	cumstances and t Use water spray t	measures that are appropriate to local cir- he surrounding environment. o cool unopened containers. ged containers from fire area if it is safe to do
		l protective equipment fighters	:		e, wear self-contained breathing apparatus. ective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- tive equipment and emer- gency procedures	:	Use personal protective equipment. Follow safe handling advice (see section 7) and personal pro- tective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Sweep up or vacuum up spillage and collect in suitable con- tainer for disposal. Avoid dispersal of dust in the air (i.e., clearing dust surfaces

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		es, as these leased into t Local or nat posal of this employed in mine which Sections 13	ssed air). ts should not be allowed to accumulate on surfac- may form an explosive mixture if they are re- he atmosphere in sufficient concentration. ional regulations may apply to releases and dis- material, as well as those materials and items the cleanup of releases. You will need to deter- regulations are applicable. and 15 of this SDS provide information regarding or national requirements.
7. HAND	LING AND STORAGE		
Han	dling		
Tec	hnical measures	causing an e Provide ade	city may accumulate and ignite suspended dust explosion. quate precautions, such as electrical grounding J, or inert atmospheres.
Adv	al/Total ventilation ice on safe handling idance of contact	 Use only wit Do not bread Do not swall Avoid contad Avoid prolor Handle in ad practice, base sessment Minimize du Keep contai Keep away Take precad 	h adequate ventilation. the dust, fume, gas, mist, vapours or spray. low. ct with eyes. nged or repeated contact with skin. ccordance with good industrial hygiene and safety sed on the results of the workplace exposure as- st generation and accumulation. ner closed when not in use. from heat and sources of ignition. utionary measures against static discharges. o prevent spills, waste and minimize release to the t.
	rage		ונט
	ditions for safe storage		perly labelled containers. ordance with the particular national regulations.
Mat	erials to avoid		with the following product types:
Daa	kaging matarial	. Ilaauitahla m	notorial, Nana known

Packaging material : Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Selenium	7782-49-2	PC-TWA	0.1 mg/m3	CN OEL



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		1			(selenium)	1	
				TWA	20 µg/m3 (OEB 3)	Internal	
				Wipe limit	200 µg/100 cm2	Internal	
				TWA	0.2 mg/m3 (selenium)	ACGIH	
Engir	neering measures	:	 All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. Containment technologies suitable for controlling compound are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face con- tainment devices). Minimize open handling. 				
Perso	onal protective equip	ment					
Respi	ratory protection	:	If adequate local exhaust ventilation is not available or expo- sure assessment demonstrates exposures outside the rec- ommended guidelines, use respiratory protection.				
	ter type	:	Particulates ty	pe			
Eye/ta	ace protection	:	 Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols. Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing. 				
Skin a	and body protection	:					
Hand	protection			5			
Ма	aterial	:	Chemical-resi	stant gloves			
	emarks ne measures	:	eye flushing s ing place. When using d Wash contam The effective of engineering co appropriate de	chemical is lik ystems and sa o not eat, drink inated clothing operation of a pontrols, proper	ely during typical use, fety showers close to t or smoke. before re-use. facility should include r personal protective eq decontamination proce g, medical surveillance	he work- eview of juipment, dures,	

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

: pellets



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	Colour		:	silver	
				grey	
	Odour		:	No data available	9
	Odour ⁻	Threshold	:	No data available	9
	рН		:	No data available)
	Melting	point/freezing point	:	No data available	9
	Initial b range	oiling point and boiling	:	No data available	3
	Flash p	oint	:	Not applicable	
	Evapor	ation rate	:	Not applicable	
	Flamma	ability (solid, gas)	:	May form explosi dling or other me	ve dust-air mixture during processing, han- ans.
	Flamma	ability (liquids)	:	Not applicable	
		explosion limit / Upper bility limit	:	No data available	3
		explosion limit / Lower bility limit	:	No data available	3
	Vapour	pressure	:	Not applicable	
	Relative	e vapour density	:	Not applicable	
	Relative	e density	:	No data available	9
	Density	,	:	No data available	9
	Solubili Wat	ty(ies) er solubility	:	No data available)
		n coefficient: n-	:	Not applicable	
	octanol Auto-ig	nition temperature	:	No data available)
	Decom	position temperature	:	No data available)
	Viscosi Visc	ty cosity, kinematic	:	Not applicable	



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Explo	osive properties	:	Not explosive				
Oxidi	zing properties	:	The substance of	or mixture is not classified as oxidizing.			
Mole	cular weight	:	No data available				
	cle characteristics cle size	:	No data availabl	e			
0. STAB		/					
	tivity nical stability ibility of hazardous reac-	:	Stable under no May form explose dling or other me	ive dust-air mixture during processing, han-			
Cond	litions to avoid	:	Heat, flames and Avoid dust forma				
Incompatible materials Hazardous decomposition products			 Oxidizing agents No hazardous decomposition products are known. 				
			1				
	sure routes	:	Inhalation Skin contact				
Ехро			Ingestion Eye contact				
Acut	e toxicity Iful if swallowed.		-				
Acut	e toxicity Iful if swallowed.		-				
Acut Harm <u>Prod</u>	e toxicity Iful if swallowed.	:	Eye contact	imate: 2,000 mg/kg ion method			
Acut Harm <u>Prod</u> Acute	e toxicity Iful if swallowed. <u>uct:</u>	:	Eye contact Acute toxicity est	ion method imate: > 10 mg/l h : dust/mist			
Acut Harm Acute Acute	e toxicity Iful if swallowed. <u>uct:</u> e oral toxicity	:	Eye contact Acute toxicity est Method: Calculat Acute toxicity est Exposure time: 4 Test atmosphere	ion method imate: > 10 mg/l h : dust/mist			
Acut Harm Acute Acute	e toxicity Iful if swallowed. <u>uct:</u> e oral toxicity e inhalation toxicity	:	Eye contact Acute toxicity est Method: Calculat Acute toxicity est Exposure time: 4 Test atmosphere	ion method imate: > 10 mg/l h : dust/mist			
Acute Harm Acute Acute	e toxicity Iful if swallowed. <u>uct:</u> e oral toxicity e inhalation toxicity	: :	Eye contact Acute toxicity est Method: Calculat Acute toxicity est Exposure time: 4 Test atmosphere Method: Calculat Acute toxicity est Method: Expert ju	ion method imate: > 10 mg/l h : dust/mist ion method imate: 100 mg/kg			

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Exposure time: 4 h Test atmosphere: dust/mist Method: Expert judgement Remarks: Based on national or regional regulation.

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Not classified based on available information.

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Selenium:

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: Skin contact
Species	: Mouse
Method	: OECD Test Guideline 429
Test Type Exposure routes Species Method Result Remarks	: negative
Remarks	: Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

Selenium:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

:

Components:

Selenium:

Effects on fertility

Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion



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Effects ment	s on foetal develop-	Rema : Test T Speci Applic Resul	ype: Embry es: Mouse ation Route : negative	on data from similar materials /o-foetal development e: Ingestion on data from similar materials	
	- single exposure assified based on avail	able informa	ation.		
	- repeated exposure assified based on avail	able informa	ation.		
<u>Comp</u>	onents:				
Selen	ium:				
Asses Rema		expos	ure.	ge to organs through prolonged or repeated I or regional regulation.	

Aspiration toxicity

Not classified based on available information.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Selenium:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.0262 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203 Remarks: No toxicity at the limit of solubility
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 0.1603 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202 Remarks: No toxicity at the limit of solubility
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (algae)): > 0.00173 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201

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Toxici icity)	ity to fish (Chronic tox-	:	mg/l Exposure time: 28 Test substance: V	nchus mykiss (rainbow trout)): >= 0.00157 8 d Vater Accommodated Fraction city at the limit of solubility		
Toxicity to daphnia and other : aquatic invertebrates (Chron- ic toxicity)			NOEC (Daphnia magna (Water flea)): >= 0.00342 mg/l Exposure time: 21 d Test substance: Water Accommodated Fraction Method: OECD Test Guideline 211 Remarks: No toxicity at the limit of solubility			
Toxic	ity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials			
	exicology Assessment nic aquatic toxicity	:		asting harmful effects to aquatic life. on national or regional regulation.		
	stence and degradabili ata available	ty				
	ccumulative potential					
	l ity in soil Ita available					
	adverse effects					
13. DISPO	SAL CONSIDERATION	S				
Dispo	osal methods					
Waste	e from residues	:		waste into sewer.		
Conta	minated packaging	 Dispose of in accordance with local regulations. Empty containers should be taken to an approved wasted dling site for recycling or disposal. If not otherwise specified: Dispose of as unused production 				
14. TRAN	SPORT INFORMATION					

International Regulations

UNRTDG

UN number	: Not applicable
Proper shipping name	: Not applicable
Class	: Not applicable

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Subs	idiary risk		Not applicable	
	ing group	÷	Not applicable	
Labe		:	Not applicable	
Envir	onmentally hazardous	:	no	
ΙΑΤΑ	-DGR			
UN/II	D No.	:	Not applicable	
Prop	er shipping name	:	Not applicable	
Class	•	:	Not applicable	
	idiary risk	:	Not applicable	
	ing group	:	Not applicable	
Labe		:	Not applicable	
aircra	,	:	Not applicable	
	ing instruction (passen- ircraft)	:	Not applicable	
IMDO	G-Code			
UN n	umber	:	Not applicable	
Prope	er shipping name	:	Not applicable	
Class	•	:	Not applicable	
	idiary risk	:	Not applicable	
	ing group	:	Not applicable	
Labe		:	Not applicable	
		÷	Not applicable	
warr	ne pollutant	•	no	
Tran	sport in bulk according	j to	Annex II of MAR	POL 73/78 and the IBC Code
Not a	pplicable for product as	sup	plied.	

National Regulations

GB 6944/12268

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Marine pollutant	:	no

Special precautions for user

Not applicable

15. REGULATORY INFORMATION

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals

: This product is not listed in the catalogue of hazardous chemicals and it does not meet the definition of haz-



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						ardous chemicals and its principles of determination.		
	Identification of Major Hazard Installations for Hazardous Chemicals (GB : Not listed 18218)							
	Hazaro SAWS	lous Chemicals for Pric	ority	Management unde	er :	Not listed		
	-	ations on Labour Prof gue of Highly Toxic Ch		-	s where :	e Toxic Substances are Used Not listed		
		ation of Environmenta port of Toxic Chemic			e First	Import of Chemicals and the Import		
I		Severely Restricted To			ort :	Not listed		
	-	ation on the Administ gue and Classification				als Not listed		
	Yangtz	ze River Protection La	w					
						ohibited for inland river transport.		
	The co AICS	omponents of this pro	duo :	ct are reported in t not determined	the fol	lowing inventories:		
I	DSL		:	not determined				
ļ	IECSC		:	not determined				
16. O	THER	INFORMATION						
I	Revisio	on Date	:	2024/09/28				
I	Furthe	r information						
(es of key data used to e the Safety Data	:		arch re	data from raw material SDSs, OECD sults and European Chemicals Agen- u/		
		where changes have be ent by two vertical lines		made to the previo	us vers	sion are highlighted in the body of this		
I	Date fo	ormat	:	yyyy/mm/dd				
I	Full te	xt of other abbreviation	ons					
	ACGIH CN OE		:		osure l	Limit Values (TLV) limits for hazardous agents in the azardous agents.		

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ACGIH / TWA:8-hour, time-weighted averageCN OEL / PC-TWA:Permissible concentration - time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified: Nch - Chilean Norm: NO(A)EC - No Observed (Adverse) Effect Concentration: NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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