## VIRKON™ S



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SECTION	1. IDENTIFICATION					
Prod	Product name		VIRKON™ S			
Prod	uct code	:	0000000005780	94863		
EPA	EPA registration number		39967-137			
Man	ufacturer or supplier's	deta	ills			
Com	pany	:	111 RIDC Park V	Regulatory Affairs		
Resp	oonsible Department	:	(800) LANXESS (412) 809-1000 lanxesshes@lan			
Eme	rgency telephone numbe	er :	(703) 527-3887 (	0) 424-9300 or (Outside U.S.A) and mention CCN12916. ency Phone (866) 673 6350.		
Reco	Recommended use of the chemical and restrictions on use					

Recommended use	:	Disinfectants
		Cleaning agent

### **SECTION 2. HAZARDS IDENTIFICATION**

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200).					
Skin irritation	:	Category 2			
Serious eye damage	:	Category 1			
GHS label elements Hazard pictograms	:				
Signal word	:	Danger			
Hazard statements	:	Causes skin irritation. Causes serious eye damage.			
Precautionary statements	:	Prevention:			
1/22					



			oughly after handling. e gloves/ eye protection/ face protection.
		IF IN EYES: Ri Remove contac rinsing. Immed If skin irritation	ash with plenty of soap and water. nse cautiously with water for several minutes. t lenses, if present and easy to do. Continue iately call a POISON CENTER/ doctor. occurs: Get medical advice/ attention. ninated clothing and wash before reuse.
Other haz	zards		
None kno	wn.		

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
pentapotassium	70693-62-8	>= 30 - < 50
bis(peroxymonosulphate)		
bis(sulphate)		
malic acid	6915-15-7	>= 20 - < 30
sulphamidic acid	5329-14-6	>= 5 - < 10
sodium dodecylbenzenesulfonate	25155-30-0	>= 1 - < 5
potassium hydrogensulphate	7646-93-7	>= 1 - < 5
dipotassium peroxodisulphate	7727-21-1	>= 1 - < 5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

#### **SECTION 4. FIRST AID MEASURES**

If inhaled	If inhaled, remove to fresh air. Get medical attention if symptoms appear.	
In case of skin contact	Wash off with soap and water. Continue to rinse for at least 20 minutes. Get medical attention if symptoms occur. Wash contaminated clothing before reuse.	
In case of eye contact	Get medical attention immediately. In case of contact, flush eyes with plenty of water for at least 30 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Remove contact lenses, if present and easy to do. Continue rinsing. Chemical burns must be treated promptly by a physician.	



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lf swa	If swallowed		<ul> <li>Rinse mouth with water.</li> <li>Do not induce vomiting unless directed to do by medical personnel.</li> <li>Get medical attention if symptoms occur.</li> </ul>					
Most	important symptoms a	and	effects, both acu	te and delayed				
Sy	Symptoms		Eye: Causes irritation with symptoms of reddening, tearing, stinging, and swelling. Skin: Causes irritation with symptoms of reddening, itching, and swelling.					
Efi	fects	:	Causes skin irrita Causes serious					
Notes	to physician	:	Treat symptomat	ically.				
SECTION	5. FIREFIGHTING MEA	SU	RES					
Suital	ble extinguishing media	:	cumstances and	g measures that are appropriate to local cir- the surrounding environment. e water spray (fog), foam or dry chemical.				
Unsui media	itable extinguishing a	: Do not use water jet. Carbon dioxide (CO2)						
Speci fightir	fic hazards during fire- ng	:	ing or thermal de	g gases/fumes may be given off during burn- composition. n fire fighting may be corrosive.				
Hazaı ucts	rdous combustion prod-	:	Carbon dioxide ( Carbon monoxide Sulphur oxides Metal oxides Nitrogen oxides ( Halogenated con Phosphorus oxid	e NOx) npounds				
			Sulphur oxides Metal oxides Carbon dioxide ( Carbon monoxide Nitrogen oxides ( Halogenated con	e NOx)				
Furthe	er information	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.					

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Special protective equipment for firefighters		:	Wear self-contained breathing apparatus for firefighting if nec- essary.		
SEC	TION 6	ACCIDENTAL RELE	ASE	EMEASURES	
	tive equ	al precautions, protec- lipment and emer- procedures	:	suitable training. Put on appropriate Do not touch or w Evacuate personn	y and unprotected personnel from entering. ventilation.
	Environ	ironmental precautions :		Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.	
		s and materials for ment and cleaning up	:	Avoid dust format Do not dry sweep Vacuum dust with place in a closed,	y from and upwind of spill/leak. ion.

### SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.
Advice on safe handling	Remove contaminated clothing and protective equipment be- fore entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Avoid inhalation, ingestion and contact with skin and eyes. Use only with adequate ventilation.
Conditions for safe storage	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container closed when not in use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.



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		Use appropriate tion.	unlabeled containers. e container to avoid environmental contamina- ers retain residue and can be dangerous. ontainer.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis		
dipotassium peroxodisulphate	7727-21-1	TWA	0.1 mg/m3 (Persulphate)	ACGIH		
Engineering measures	use process engineering	If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.				
Personal protective equipmer	nt					
Respiratory protection	exposure le	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.				
Hand protection Material Wearing time	: Butyl rubber : < 60 min	r - IIR				
Remarks	with the pro tion with pro	The suitability for a specific workplace should be discussed with the producers of the protective gloves. After contamina- tion with product change the gloves immediately and dispose of them according to relevant national and local regulations				
Eye protection	Safety glasses with side-shields If inhalation hazards exist, a full-face respirator may be re- quired instead.					
Skin and body protection	: Wear suitab	le protective cloth	ing.			
Hygiene measures	chemical pro- lavatory and Appropriate contaminate Wash conta Ensure that	<ul> <li>Wear suitable protective clothing.</li> <li>Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.</li> <li>Appropriate techniques should be used to remove potentially contaminated clothing.</li> <li>Wash contaminated clothing before reusing.</li> <li>Ensure that eyewash stations and safety showers are close to the workstation location.</li> </ul>				

## Components with workplace control parameters



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SECTIO	SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES						
Арр	earance	:	tablet				
Col	our	:	yellow				
Odd	Odour		odourless				
Odd	our Threshold	:	No data available	9			
рН		:	2.5 - 3 Concentration: 1	0 %			
Mel	ting point/range	:	No data available	9			
Boi	ing point/boiling range	:	No data available	9			
Flas	sh point	:	No data available	9			
Eva	poration rate	:	No data available	9			
Self	-ignition	:	No data available	9			
Bur	ning number	:	No data available	9			
	per explosion limit / Upper Imability limit	:	No data available	9			
	ver explosion limit / Lower nmability limit	:	No data available	9			
Vap	our pressure	:	< 0.0001 hPa (68	3 °F / 20 °C)			
Rel	ative density	:	No data available	9			
Der	nsity	:	1.35 g/cm3 (68 °	F / 20 °C)			
	ubility(ies) Water solubility	:	65 g/l				
;	Solubility in other solvents	:	No data available	9			
	tition coefficient: n- anol/water	:	No data available	9			
Dec	composition temperature	:	No data available	9			
Viso	cosity						

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	Viscosity, dynamic	:	No data available	e	
	Viscosity, kinematic	:	No data available	e	
	Explosive properties	:	No data available	e	
	Oxidizing properties		No data available	e	
SEC	TION 10. STABILITY AND RE	EAC	ΤΙVITY		
	Reactivity		No decompositic	n if stored and applied as directed.	
	Chemical stability Possibility of hazardous reac- tions		The product is cl	nemically stable.	
			No dangerous re	action known under conditions of normal use.	
	Conditions to avoid		Exposure to moisture		
	Incompatible materials		Incompatible with strong bases and oxidizing agents. Incompatible with acids. Halogenated compounds Combustible substances brass Copper Cyanides Metal salt.		
	Hazardous decomposition products	:	Chlorine Sulphur oxides		

### **SECTION 11. TOXICOLOGICAL INFORMATION**

The most important known symptoms and effects are described in Section 2 and/or Section 4.

#### Acute toxicity

Not classified based on available information.

## Product: Acute oral toxicity : LD50 (Rat, male and female): 4,123 mg/kg Method: OECD Test Guideline 401 GLP: yes Acute inhalation toxicity : LC0 (Rat, male and female): > 3.7 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity Remarks: the particle size measurements of the product indi-7/22



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			cate that it is r he inhalation	not respirable and therefore not bioavailable by route.
Acute	e dermal toxicity	F		ale and female): 2,200 mg/kg rapolation according to Regulation (EC) No.
<u>Com</u>	<u>ponents:</u>			
penta	apotassium bis(pero	xymono	sulphate) bi	s(sulphate):
-	oral toxicity	: L	_D50 (Rat, ma	ale and female): 500 mg/kg D Test Guideline 423
Acute	e inhalation toxicity	E T A t	Method: OEC Assessment: ion toxicity	
Acute	e dermal toxicity	N F	Method: OEC	ale and female): > 5,000 mg/kg D Test Guideline 402 rapolation according to Regulation (EC) No.
malic	acid:			
Acute	oral toxicity	ſ		ale and female): 3,500 mg/kg D Test Guideline 401
Acute	inhalation toxicity	E T N	Exposure time Fest atmosph Method: OEC	le and female): > 1.306 mg/l e: 4 h ere: dust/mist D Test Guideline 403 hest producible concentration.
Acute	e dermal toxicity	ſ		female): > 5,000 mg/kg D Test Guideline 401
sulph	namidic acid:			
-	e oral toxicity	ſ		male): 2,140 mg/kg D Test Guideline 401
Acute	e dermal toxicity	ſ		ale and female): > 2,000 mg/kg D Test Guideline 402
			0 /	22



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		Assessment: The substance or mixture has no acute derr toxicity
sodiu	Im dodecylbenzenes	sulfonate:
Acute	oral toxicity	: LD50 (Rat): 438 mg/kg
potas	sium hydrogensulp	hate:
Acute	oral toxicity	: LD50 (Rat): 2,340 mg/kg
dipot	assium peroxodisul	phate:
Acute	oral toxicity	: LD50 (Rat): 700 mg/kg
Acute	inhalation toxicity	<ul> <li>LC0 (Rat): &gt; 2.95 mg/l</li> <li>Exposure time: 4 h</li> <li>Test atmosphere: dust/mist</li> <li>Remarks: Highest producible concentration.</li> </ul>
Acute	dermal toxicity	: LD50 (Rabbit): > 10,000 mg/kg
Produ Speci Metho Resul	es od	<ul> <li>Rabbit</li> <li>OECD Test Guideline 404</li> <li>Irritating to skin.</li> </ul>
<u>Comp</u>	oonents:	
penta	potassium bis(pero	xymonosulphate) bis(sulphate):
Speci	es	: Rabbit
Metho		: OECD Test Guideline 404
Resul	t	: Causes burns.
malic	acid:	
Speci		: Rabbit
Metho		: OECD Test Guideline 404
Resul	τ	: No skin irritation
sulph	amidic acid:	
Speci		: Rabbit
Metho		: OECD Test Guideline 404
Resul	t	: Irritating to skin.
	Im dodecylbenzenes	
Δοορο	ssment	: Irritating to skin.

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potas	sium hydrogensulpl	hate:	
Asses	sment	: Causes burns.	
dipota	assium peroxodisul	ohate:	
Specie	es	: Rabbit	
Metho		: OECD Test Gu	
Result	t	: Irritating to skir	٦.
Serio	us eye damage/eye i	irritation	
Cause	es serious eye damag	e.	
Produ	ict:		
Specie	es	: Rabbit	
Result			adamage to eyes.
	onents:		
penta	potassium bis(pero	xymonosulphate) bis	s(sulphate):
Specie		: Rabbit	
Result			damage to eyes.
Metho	d	: OECD Test Gu	lideline 405
malic	acid:		
Specie		: Rabbit	
Result		: Irritating to eye	
Metho	d	: OECD Test Gu	lideline 405
sulph	amidic acid:		
Specie		: Rabbit	
Result		: Irritating to eye	
Metho	d	: OECD Test Gu	lideline 405
sodiu	m dodecylbenzenes	ulfonate:	
Asses	sment	: Risk of serious	a damage to eyes.
dipota	assium peroxodisul	ohate:	
Result	t	: Irritating to eye	es.
Respi	ratory or skin sensi	tisation	
Skin s	sensitisation		
	assified based on ava	ailable information	



rsion	Revision Date: 09/30/2020	SDS Number: 20300008863	Date of last issue: 09/30/2020 Country / Language: US / EN
•	iratory sensitisation		
Produ	uct:		
	sure routes	: Skin contact	
Speci	es	: Guinea pig	
Metho Resul		: OECD Test Gu	uideline 406 sensitisation on laboratory animals.
Resul		. Did not cause	
	sure routes	: Inhalation	
Speci Metho		: Mammal - spe : Expert judgem	cies unspecified
Resul			e respiratory sensitisation.
<u>Comp</u>	<u>oonents:</u>		
penta	potassium bis(pero	xymonosulphate) bis	s(sulphate):
	sure routes	: Skin contact	
Speci Metho		: Guinea pig : OECD Test Gu	uidalina 406
Resul			e skin sensitisation.
malic	acid:		
	sure routes	: Skin contact	
Speci Metho		: Guinea pig : OECD Test Gu	udeline 406
Resul			sensitisation on laboratory animals.
GLP		: yes	
sulph	namidic acid:		
Resul		: Did not cause	sensitisation on laboratory animals.
dipota	assium peroxodisul	phate:	
-	sure routes	: Inhalation	
Speci			cies unspecified
Resul	t	: May cause ser	nsitisation by inhalation.
	sure routes	: Skin contact	
Speci		: Mouse	videline 420
Metho Resul		: OECD Test Gu	
Resul <b>Germ</b> Not cl	t <b>cell mutagenicity</b> lassified based on ava	: May cause ser	nsitisation by skin contact.
	oonents:	xymonosulphate) bis	(autorea).

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ersion 1	Revision Date: 09/30/2020	SDS Number: 203000008863	Date of last issue: 09/30/2020 Country / Language: US / EN
Geno	toxicity in vitro	Metabolic ac	Mammalian-Animal tivation: with and without metabolic activation CD Test Guideline 476 ve
			tivation: with and without metabolic activation CD Test Guideline 471
		Metabolic ac	Mammalian-Human tivation: with and without metabolic activation CD Test Guideline 473 ve
Geno	toxicity in vivo	Application R	CD Test Guideline 474
malic	acid:		
Geno	toxicity in vitro	: Remarks: No cological test	ot mutagenic in a standard battery of genetic tox is.
sulph	namidic acid:		
Geno	toxicity in vitro	Metabolic act	Mammalian-Human tivation: with and without metabolic activation CD Test Guideline 487 tive
		Metabolic ac	Mammalian-Animal tivation: with and without metabolic activation CD Test Guideline 476 tive
			tivation: with and without metabolic activation CD Test Guideline 471
togib	assium peroxodisul	phate:	
•	toxicity in vitro	•	ot mutagenic in a standard battery of genetic tox

cological tests.

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rsion I	Revision 09/30/20		SDS Number: 203000008863	Date of last issue: 09/30/2020 Country / Language: US / EN				
Carci	nogenicity	,						
			lable information					
IARC	N	lo compone	ailable information. nent of this product present at levels greater than or equal to 0.1% is s probable, possible or confirmed human carcinogen by IARC. nent of this product present at levels greater than or equal to 0.1% is s list of regulated carcinogens.					
OSHA								
NTP				esent at levels greater than or equal to 0.1% is ed carcinogen by NTP.				
Renro	oductive to	vicity						
•		•	lable information.					
		seu un avai						
<u>Comp</u>	<u>oonents:</u>							
penta	potassium	bis(perox	ymonosulphate) bis	s(sulphate):				
•	s on foetal		• • • •	eratogenic or fetotoxic effects were found at all				
ment		aovolop	dose levels te	•				
malic	a a i d i							
	acia:							
		develop-	: Remarks: No	known significant effects or critical hazards.				
	s on foetal	develop-	: Remarks: No	known significant effects or critical hazards.				
Effect		develop-	: Remarks: No	known significant effects or critical hazards.				
Effect ment		·	: Remarks: No	known significant effects or critical hazards.				
Effect ment	s on foetal	xposure	: Remarks: No I	known significant effects or critical hazards.				
Effect ment STOT Not cl	s on foetal - single ex assified bas	xposure		known significant effects or critical hazards.				
Effect ment STOT Not cl	s on foetal	xposure		known significant effects or critical hazards.				
Effect ment STOT Not cl <u>Comp</u>	s on foetal - single ex assified bas	<b>xposure</b> sed on avai	lable information.	known significant effects or critical hazards.				
Effect ment STOT Not cl <u>Comp</u> potas	s on foetal - single ex assified bas conents:	<b>xposure</b> sed on avai	lable information. ate:	known significant effects or critical hazards.				
Effect ment STOT Not cl <u>Comp</u> potas	s on foetal - single ex assified bas <u>conents:</u> ssium hydr	<b>xposure</b> sed on avai	lable information. ate:	-				
Effect ment STOT Not cl Comp potas Asses	s on foetal - single ex assified bas <u>conents:</u> ssium hydr	xposure sed on avai ogensulph	lable information. ate: : May cause res	-				
Effect ment STOT Not cl Comp potas Asses	s on foetal - single ex lassified bas <u>conents:</u> ssium hydro	xposure sed on avai ogensulph	lable information. ate: : May cause res hate:	-				
Effect ment STOT Not cl Comp potas Asses	s on foetal - single ex assified bas <u>conents:</u> sium hydro ssment assium per	xposure sed on avai ogensulph	lable information. ate: : May cause res hate:	spiratory irritation.				
Effect ment STOT Not cl Comp potas Asses dipota	s on foetal - single ex assified bas <u>conents:</u> sium hydro ssment assium per	xposure sed on avai ogensulph roxodisulp	lable information. ate: : May cause res hate: : May cause res	spiratory irritation.				
Effect ment STOT Not cl Comp potas Asses dipota Asses	<ul> <li>s on foetal</li> <li>single explansified bas</li> <li>conents:</li> <li>ssium hydrossment</li> <li>assium per ssment</li> <li>- repeated</li> </ul>	xposure sed on avai ogensulph roxodisulp l exposure	lable information. ate: : May cause res hate: : May cause res	spiratory irritation.				
Effect ment STOT Not cl Comp potas Asses dipot Asses STOT Not cl	<ul> <li>s on foetal</li> <li>single example assified bas</li> <li>conents:</li> <li>assium hydrossment</li> <li>assium per ssment</li> <li>- repeated bas</li> </ul>	xposure sed on avai ogensulph roxodisulp l exposure sed on avai	lable information. ate: : May cause res hate: : May cause res	spiratory irritation.				
Effect ment STOT Not cl Comp potas Asses dipota Asses STOT Not cl Repea	<ul> <li>- single explansified bas</li> <li>- single explansified bas</li> <li>- single explansified bas</li> <li>- single explansified bas</li> <li>- repeated</li> <li>- repeated</li> <li>- assified bas</li> <li>ated dose</li> </ul>	xposure sed on avai ogensulph roxodisulp l exposure sed on avai	lable information. ate: : May cause res hate: : May cause res	spiratory irritation.				
Effect ment STOT Not cl Comp potas Asses dipota Asses STOT Not cl Repea	<ul> <li>s on foetal</li> <li>single example assified bas</li> <li>conents:</li> <li>assium hydrossment</li> <li>assium per ssment</li> <li>- repeated bas</li> </ul>	xposure sed on avai ogensulph roxodisulp l exposure sed on avai	lable information. ate: : May cause res hate: : May cause res	spiratory irritation.				
Effect ment STOT Not cl Comp potas Asses dipota Asses STOT Not cl Repea	<ul> <li>s on foetal</li> <li>single explassified bas</li> <li>sonents:</li> <li>ssium hydrossment</li> <li>assium per</li> <li>repeated</li> <li>assified bas</li> <li>ated dose foonents:</li> </ul>	xposure sed on avai ogensulph roxodisulp l exposure sed on avai toxicity	lable information. ate: : May cause res hate: : May cause res	spiratory irritation.				
Effect ment STOT Not cl Comp potas Asses dipot Asses STOT Not cl Repe Comp penta	<ul> <li>single explanation foetal for a single explanation foetal for a single explanation for a single explanation</li></ul>	xposure sed on avai ogensulph roxodisulp l exposure sed on avai toxicity	lable information. ate: : May cause res hate: : May cause res lable information. ymonosulphate) bis	spiratory irritation.				
Effect ment STOT Not cl Comp potas Asses dipota Asses STOT Not cl Repea	<ul> <li>single explanation foetal for a single explanation foetal for a single explanation for a single explanation</li></ul>	xposure sed on avai ogensulph roxodisulp l exposure sed on avai toxicity	lable information. ate: : May cause res hate: : May cause res lable information. ymonosulphate) bis : Rat, male and	spiratory irritation. spiratory irritation. s(sulphate): female				
Effect ment STOT Not cl Comp potas Asses dipota Asses STOT Not cl Repea Comp penta Speci LOAE	<ul> <li>single explanation foetal for a single explanation foetal for a single explanation for a single explanation</li></ul>	xposure sed on avai ogensulph roxodisulp l exposure sed on avai toxicity	lable information. ate: : May cause res hate: : May cause res lable information. ymonosulphate) bis	spiratory irritation. spiratory irritation. s(sulphate): female				
Effect ment STOT Not cl Comp potas Asses dipota Asses STOT Not cl Repea Comp penta Speci LOAE Applic Expos	<ul> <li>s on foetal</li> <li>single explassified bas</li> <li>conents:</li> <li>assium hydrossment</li> <li>assium personnents:</li> <li>repeated</li> <li>assified bas</li> <li>ated dose for the second secon</li></ul>	xposure sed on avai ogensulph roxodisulp d exposure sed on avai toxicity	lable information. ate: : May cause res hate: : May cause res lable information. ymonosulphate) bis : Rat, male and : > 1,000 mg/kg : Oral : 28 d	spiratory irritation. spiratory irritation. s(sulphate): female				
Effect ment STOT Not cl Comp potas Asses dipota Asses STOT Not cl Repea Comp penta Speci LOAE Applic Expos	<ul> <li>single explanation foetal explanation</li> <li>single explanation</li> <l< td=""><td>xposure sed on avai ogensulph roxodisulp d exposure sed on avai toxicity</td><td>lable information. ate: : May cause res hate: : May cause res lable information. ymonosulphate) bis : Rat, male and : &gt; 1,000 mg/kg : Oral</td><td>spiratory irritation.</td></l<></ul>	xposure sed on avai ogensulph roxodisulp d exposure sed on avai toxicity	lable information. ate: : May cause res hate: : May cause res lable information. ymonosulphate) bis : Rat, male and : > 1,000 mg/kg : Oral	spiratory irritation.				



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	Remar	ks	:	Subacute toxicity					
	Species LOAEL Application Route Exposure time Number of exposures Method Remarks			<ul> <li>Rat, male and female</li> <li>600 mg/kg</li> <li>Oral</li> <li>90 d</li> <li>7 days/week</li> <li>OECD Test Guideline 408</li> <li>Subchronic toxicity</li> </ul>					
	malic a	acid:							
	Remarks		:	No known signific	cant effects or critical hazards.				
	sodiur	n dodecylbenzenesu	lfor	ate:					
	Specie NOAEI Applica Dose Remar	- ation Route	:	Rat 220 mg/kg Oral 220 mg/kg Chronic toxicity					
	-	tion toxicity ssified based on avail	able	information.					
	Furthe	r information							
	<u>Produc</u> Remar		:	No data available	)				
SEC	TION 1	2. ECOLOGICAL INF	OR	MATION					
	Ecoto	kicity							
	Comp	onents:							
	pentapotassium bis(peroxymonosulphate) bis(sulphate):								

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 53 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 GLP: yes Remarks: Fresh water
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.5 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes Remarks: Fresh water
Toxicity to algae/aquatic	:	EC50 (Pseudokirchneriella subcapitata (microalgae)): > 1 mg/l



Versi 1.1	on	Revision Date: 09/30/2020		S Number: 3000008863	Date of last issue: 09/30/2020 Country / Language: US / EN
l	plants			Exposure time: 72 Method: OECD Te GLP: yes Remarks: Fresh w	est Guideline 201
				NOEC (Pseudokir mg/l Exposure time: 72 Method: OECD Te GLP: yes Remarks: Fresh w	est Guideline 201
I	malic a	cid:			
-	Toxicity	r to fish	:	LC50 (Danio rerio Exposure time: 96 Method: OECD Te GLP: yes Remarks: Fresh w	est Guideline 203
		to daphnia and other invertebrates	:	EC50 (Daphnia m Exposure time: 48 Method: OECD Te GLP: yes Remarks: Fresh w	est Guideline 202
	Toxicity plants	to algae/aquatic	:	EC50 (algae): > 1 Exposure time: 72 Method: OECD Te GLP: yes Remarks: Fresh w	2 h est Guideline 201
				NOEC (algae): 10 Exposure time: 72 Method: OECD Te GLP: yes Remarks: Fresh w	2 h est Guideline 201
:	sulpha	midic acid:			
	Toxicity		:	LC50 (Pimephales Exposure time: 96 Method: OECD Te GLP: no Remarks: Fresh w	est Guideline 203
		to daphnia and other invertebrates	:	EC50 (Daphnia m Exposure time: 48 Method: OECD Te GLP: yes Remarks: Fresh w	est Guideline 202



Vers 1.1	sion	Revision Date: 09/30/2020	-	S Number: 3000008863	Date of last issue: 09/30/2020 Country / Language: US / EN
	Toxicity plants	to algae/aquatic	:	EC50 (Desmodes End point: Growth Exposure time: 72 Method: OECD Te GLP: yes Remarks: Fresh w	h est Guideline 201
				NOEC (Desmode: End point: Growth Exposure time: 72 Method: OECD Te GLP: yes Remarks: Fresh w	h est Guideline 201
	Toxicity icity)	to fish (Chronic tox-	:	NOEC (Danio reri Exposure time: 34 Method: OECD Te	
		invertebrates (Chron-	:	NOEC (Daphnia n Exposure time: 21 Method: OECD Te	
	Toxicity	to microorganisms	:	EC50: > 200 mg/l End point: Respira Exposure time: 3 Method: OECD Te GLP: yes Remarks: Fresh w	n est Guideline 209
	sodium	n dodecylbenzenesul	fona	ate:	
	Toxicity icity)	to fish (Chronic tox-	:	NOEC (Oncorhyn Exposure time: 3	chus kisutch (coho salmon)): 3.1 mg/l Days
		to daphnia and other invertebrates (Chron- ty)	:	NOEC (Daphnia n Exposure time: 7	nagna (Water flea)): 4 mg/l Days
	dipotas	sium peroxodisulph	ate:		
	Toxicity	to fish	:	LC50 (Oncorhync Exposure time: 96	hus mykiss (rainbow trout)): 76.3 mg/l h
		to daphnia and other invertebrates	:	EC50 (Daphnia m Exposure time: 48	agna (Water flea)): 120 mg/l h
	Toxicity plants	to algae/aquatic	:	EC50 (Pseudokiro mg/l Exposure time: 72 Method: OECD Te	



rsion	Revision Date: 09/30/2020		OS Number: 3000008863	Date of last issue: 09/30/2020 Country / Language: US / EN
Ecoto	oxicology Assessment			
Chror	nic aquatic toxicity	:	This product has	no known ecotoxicological effects.
Persi	stence and degradabil	ity		
Com	ponents:			
penta	apotassium bis(peroxy	mo	nosulphate) bis(s	ulphate):
Biode	gradability	:		ods for determining the biological degradabil- ble to inorganic substances.
malic	acid:			
Biode	gradability	:	aerobic Result: Readily bi Biodegradation: Exposure time: 24 Method: OECD T GLP: yes	67.5 %
sulph	namidic acid:			
	egradability	:		ods for determining the biological degradabil- ble to inorganic substances.
dipot	assium peroxodisulph	ate	:	
Biode	gradability	:		ods for determining the biological degradabil- ble to inorganic substances.
Bioad	ccumulative potential			
Com	oonents:			
penta	apotassium bis(peroxy	mo	nosulphate) bis(s	ulphate):
	ion coefficient: n- ol/water	:	log Pow: < 0.3 Method: OECD T	est Guideline 117
malic	acid:			
	ion coefficient: n- ol/water	:	log Pow: -1.26	
sulph	namidic acid:			
	ion coefficient: n- ol/water	:	log Pow: -4.34	
sodiu	ım dodecylbenzenesul	fon	ate:	
	cumulation		Bioconcentration	factor (BCE): 220

## VIRKON™ S



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-	artition coefficient: n- ctanol/water	:	log Pow: 0.45	
	<b>lobility in soil</b> lo data available			
-	ther adverse effects o data available			
SECT	ION 13. DISPOSAL CONSI	DER	RATIONS	
D	isposal methods			
R tio	CRA - Resource Conserva- on and Recovery Authoriza- on Act	:	hazardous waste er, under RCRA, determine at the t ing the product or	purchased form, this product would not be a either by listing or by characteristic. Howev- t is the responsibility of the product user to ime of disposal, whether a material contain- derived from the product should be classi- us waste. (40 CFR 261.20-24)
W	Waste from residues :		The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a saf way. Empty containers retain product residue; observe all precat tions for product. Avoid dispersal of spilled material and runoff and contact w soil, waterways, drains and sewers. Waste disposal should be in accordance with existing feder state, provincial and/or local environmental controls.	

### **SECTION 14. TRANSPORT INFORMATION**

### **International Regulations**

#### IATA-DGR

Not regulated as a dangerous good

#### IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

#### **National Regulations**

49 CFR		
UN/ID/NA number	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. (SODIUM DODECYLBENZENESULFONATE)
Class	:	9

## VIRKON™ S



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Packii Labels	ng group S	: III : 9 :	
When	e pollutant in individual container	. : Risk of serious	oduct RQ, this material ships as non-regulated. s damage to eyes, Irritating to skin., Keep dry., m foodstuffs, acids and alkalis

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### **SECTION 15. REGULATORY INFORMATION**

#### **CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ	Calculated product RQ
		(lbs)	(lbs)
sodium dodecylbenzenesulfonate	25155-30-0	1000	21166

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Haza	rds :	Skin corrosion or irritation Serious eye damage or ey			
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.			
US State Regulation	S				
Massachusetts Right To Know					
	sodium dodecylbenzenesulfonate dipotassium peroxodisulphate			>= 3 - < 5 >= 1 - < 5	
Massachusetts Righ	nt To Know				
sodium dod	sodium dodecylbenzenesulfonate				
Pennsylvania Right To Know					
• •	pentapotassium bis(peroxymonosulphate) bis(sulphate)			>= 30 - < 50	
malic acid	malic acid			>= 20 - < 30	
		10 / 22			



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	sodium hydrogenca sulphamidic acid Polyphosphoric aci sodium dodecylber dipotassium peroxo	nzenesulfonate	144-55-8 5329-14-6 68915-31-1 25155-30-0 7727-21-1	> 1 >= 5 - < 10 > 1 >= 3 - < 5 >= 1 - < 5
Penns	sylvania Right To Kno			
	pentapotassium bis bis(sulphate)	s(peroxymonosulphate)	70693-62-8	
	malic acid		6915-15-7	
	sodium hydrogenca	arbonate (Solution)	144-55-8	
	sulphamidic acid		5329-14-6	
	Polyphosphoric aci		68915-31-1	
	sodium dodecylber		25155-30-0	
	potassium hydroge		7646-93-7	
	dipotassium peroxo	•	7727-21-1	
	sodium sulphate (A	nhydrous)	7757-82-6	

#### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

#### **TSCA** inventory

TSCA

: This product is regulated under the United States Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

#### **TSCA** list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

#### **FIFRA** information

EPA registration number : 39967-137

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal word : DANGER

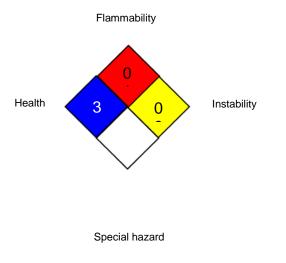


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Haza	rd statements	burns. Harmful sive statement Registered Con Active Ingredien Potassium per	nts: roxymonosulfate (CAS# 10058-23-8) 21.41% de (CAS# 7647-14-5) 1.5%

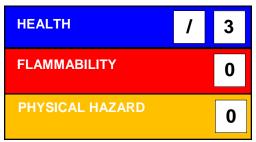
## **SECTION 16. OTHER INFORMATION**

#### **Further information**

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA	:	8-hour, time-weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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



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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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance 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

**Revision Date** 

: 09/30/2020

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered to be a guidance for processing and does not contain any warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.