

Version 10.1	Revision Date: 30.09.2023		S Number: 04454-00023	Date of last issue: 04.04.2023 Date of first issue: 09.01.2017	
SECTION	1. IDENTIFICATION				
Produ	uct name	:	Ivermectin Liqui	d Formulation	
Manu	ifacturer or supplier's	s deta	ils		
Comp	bany	:	MSD		
Address		:	Talcahuano 750, 6th floor, Ciudad Autonoma Buenos Aires, Argentina C1013AAP		
Telep	hone	:	908-740-4000		
Emergency telephone		:	1-908-423-6000		
E-ma	il address	:	EHSDATASTEV	VARD@msd.com	
Reco	mmended use of the	chem	ical and restricti	ons on use	
	mmended use ictions on use	:	Veterinary produ Not applicable	uct	

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification		
Acute toxicity (Oral)	:	Category 5
Skin corrosion/irritation	:	Category 2
Serious eye damage/eye irritation	:	Category 2A
Reproductive toxicity	:	Category 1B
Specific target organ toxicity - single exposure (Oral)	:	Category 2 (Central nervous system)
Specific target organ toxicity - single exposure	:	Category 3
Specific target organ toxicity - repeated exposure (Oral)	:	Category 2 (Central nervous system)
Short-term (acute) aquatic hazard	:	Category 1
Long-term (chronic) aquatic hazard	:	Category 1

GHS label elements



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Haza	rd pictograms		
Signa	l Word	: Danger	
Haza	rd Statements	H315 Causes H319 Causes H335 May cau H360D May da H371 May cau swallowed. H373 May cau through prolon	harmful if swallowed. skin irritation. serious eye irritation. se respiratory irritation. amage the unborn child. se damage to organs (Central nervous system) if se damage to organs (Central nervous system) ged or repeated exposure if swallowed. ic to aquatic life with long lasting effects.
Preca	utionary Statements	P202 Do not h and understoo P260 Do not b P264 Wash sk P270 Do not e P271 Use only P273 Avoid re	reathe mist or vapors. in thoroughly after handling. at, drink or smoke when using this product. outdoors or in a well-ventilated area. lease to the environment. otective gloves/ protective clothing/ eye protec-
		Response:	
		P302 + P352 I P304 + P340 - and keep com doctor if you fe P305 + P351 - for several mir easy to do. Co P308 + P311 I CENTER/ doc P332 + P313 I tion. P337 + P313 I tention.	 P P338 IF IN EYES: Rinse cautiously with water nutes. Remove contact lenses, if present and ontinue rinsing. F exposed or concerned: Call a POISON tor. f skin irritation occurs: Get medical advice/ atten- f eye irritation persists: Get medical advice/ at- Take off contaminated clothing and wash it before
		Storage:	
		P405 Store loc	cked up.
		Disposal: P501 Dispose disposal plant.	of contents/ container to an approved waste





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Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
N-Methyl-2-pyrrolidone	872-50-4	>= 10 -< 20
Ivermectin	70288-86-7	>= 1 -< 2,5

SECTION 4. FIRST AID MEASURES

General advice	:	In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.
If inhaled	:	If inhaled, remove to fresh air. Get medical attention.
In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	
Protection of first-aiders	:	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray
		Alcohol-resistant foam
		Carbon dioxide (CO2)
		Dry chemical



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Unsui media	itable extinguishing	:	None known.	
Speci fightir	fic hazards during fire	:	Exposure to comb	pustion products may be a hazard to health.
Haza	rdous combustion prod-	:	Carbon oxides Nitrogen oxides (I	NOx)
Speci ods	Specific extinguishing meth- ods		Use extinguishing measures that are appropriate to local of cumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe t so. Evacuate area.	
	al protective equipment e-fighters	:		e, wear self-contained breathing apparatus. tective equipment.

SECTION 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 protective equipment recommendations (see section 8).
Environmental precautions :	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers). 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	Soak up with inert absorbent material. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	If sufficient ventilation is unavailable, use with local exhaust ventilation.
Advice on safe handling	:	Do not get on skin or clothing. Do not breathe mist or vapors. Do not swallow. Do not get in eyes.



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		Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment Keep container tightly closed. Already sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.				
Conditions for safe storage		 Keep in properly labeled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. 				
Materia	als to avoid	: Do not store with Strong oxidizing a	stances and mixtures			

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Ivermectin	70288-86-7	TWA	30 µg/m3 (OEB 3)	Internal
	Further information: Skin			
		Wipe limit	300 µg/100 cm2	Internal

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentra- tion	Basis
N-Methyl-2-pyrrolidone	872-50-4	5-Hydroxy- N-methyl-2- pyrrolidone	Urine	End of shift (As soon as possible after exposure ceases)	100 mg/l	ACGIH BEI

 Engineering measures
 : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless quick connections).

 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 compounds



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		the compou containmen	d to control at source and to prevent migration of and to uncontrolled areas (e.g., open-face t devices). ben handling.				
Perso	onal protective equip	ment					
	iratory protection	: If adequate exposure as	local exhaust ventilation is not available or ssessment demonstrates exposures outside the				
	Iter type protection		recommended guidelines, use respiratory protection. Combined particulates and organic vapor type				
M	aterial	: Chemical-re	esistant gloves				
	emarks protection	: Wear safety If the work e mists or aer Wear a face	buble gloving. y glasses with side shields or goggles. environment or activity involves dusty conditions, rosols, wear the appropriate goggles. eshield or other full face protection if there is a direct contact to the face with dusts, mists, or				
Skin a	and body protection	Additional b task being p disposable	m or laboratory coat. body garments should be used based upon the performed (e.g., sleevelets, apron, gauntlets, suits) to avoid exposed skin surfaces. riate degowning techniques to remove potentially ed clothing.				
Hygie	ene measures	: If exposure eye flushing working pla When using Wash conta The effectiv engineering appropriate industrial hy	to chemical is likely during typical use, provide systems and safety showers close to the				

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	light yellow
Odor	:	characteristic
Odor Threshold	:	No data available
рН	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available

SAFETY DATA SHEET



Ivermectin Liquid Formulation

Flash point:> 100 °CEvaporation rate:No data availableFlammability (solid, gas):Not applicableFlammability (liquids):No data availableUpper explosion limit / Upper flammability limit:No data availableLower explosion limit / Lower flammability limit:No data availableVapor pressure:No data availableRelative vapor density:No data availableRelative density:No data availableDensity:0,90 - 0,92 g/cm³	Versi 10.1	ion	Revision Date: 30.09.2023		S Number: 94454-00023	Date of last issue: 04.04.2023 Date of first issue: 09.01.2017
Flammability (solid, gas):Not applicableFlammability (liquids):No data availableUpper explosion limit / Upper:No data availableLower explosion limit / Lower:No data availableLower explosion limit / Lower:No data availableVapor pressure:No data availableRelative vapor density:No data availableRelative density:No data availableDensity:0,90 - 0,92 g/cm³Solubility(ies)::	I	Flash po	pint	:	> 100 °C	
Flammability (liquids):No data availableUpper explosion limit / Upper:No data availableflammability limit:No data availableLower explosion limit / Lower:No data availableflammability limit:No data availableVapor pressure:No data availableRelative vapor density:No data availableRelative density:No data availableDensity:0,90 - 0,92 g/cm³Solubility(ies):	I	Evapora	ation rate	:	No data available	
Upper explosion limit / Upper flammability limitNo data availableLower explosion limit / Lower flammability limitNo data availableVapor pressureImage: No data availableRelative vapor densityImage: No data availableRelative densityImage: No data availableDensityImage: No data availableDensityImage: No data availableSolubility(ies)Image: No data available	I	Flamma	ability (solid, gas)	:	Not applicable	
flammability limit Lower explosion limit / Lower : No data available flammability limit Vapor pressure : No data available Relative vapor density : No data available Relative density : No data available Density : 0,90 - 0,92 g/cm ³ Solubility(ies)	I	Flamma	ability (liquids)	:	No data available	
flammability limit Vapor pressure : No data available Relative vapor density : No data available Relative density : No data available Density : 0,90 - 0,92 g/cm ³ Solubility(ies)				:	No data available	
Relative vapor density : No data available Relative density : No data available Density : 0,90 - 0,92 g/cm ³ Solubility(ies) : :				:	No data available	
Relative density : No data available Density : 0,90 - 0,92 g/cm³ Solubility(ies) : :	v	Vapor p	ressure	:	No data available	
Density : 0,90 - 0,92 g/cm ³ Solubility(ies)	I	Relative	e vapor density	:	No data available	
Solubility(ies)	I	Relative	edensity	:	No data available	
	I	Density		:	0,90 - 0,92 g/cm ³	
Water solubility : insoluble	:			:	insoluble	
Partition coefficient: n- : Not applicable octanol/water				:	Not applicable	
Autoignition temperature : No data available				:	No data available	
Decomposition temperature : No data available	I	Decomp	oosition temperature	:	No data available	
Viscosity Viscosity, kinematic : No data available	,			:	No data available	
Explosive properties : Not explosive	I	Explosiv	ve properties	:	Not explosive	
Oxidizing properties : The substance or mixture is not classified as oxidizing.	(Oxidizin	g properties	:	The substance of	mixture is not classified as oxidizing.
Molecular weight : No data available	I	Molecul	ar weight	:	No data available	•
Particle size : Not applicable	I	Particle	size	:	Not applicable	

SECTION 10. STABILITY AND REACTIVITY

Reactivity Chemical stability Possibility of hazardous reac- tions	:	Not classified as a reactivity hazard. Stable under normal conditions. Can react with strong oxidizing agents.
Conditions to avoid Incompatible materials Hazardous decomposition	: : :	Oxidizing agents



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produc	ots			
ECTION 1	1. TOXICOLOGICAL	INFO	ORMATION	
Informa exposi	ation on likely routes ure	of :	Inhalation Skin contact Ingestion Eye contact	
Acute	toxicity		,	
May be	e harmful if swallowed	ł.		
<u>Produ</u>	<u>ct:</u>			
Acute	oral toxicity	:	Acute toxicity e Method: Calcul	stimate: 4.463 mg/kg ation method
Acute	dermal toxicity	:	Acute toxicity e Method: Calcul	stimate: > 5.000 mg/kg ation method
Comp	onents:			
N-Met	hyl-2-pyrrolidone:			
	oral toxicity	:	LD50 (Rat): 4.1	50 mg/kg
Acute	inhalation toxicity	:	LC50 (Rat): > 5 Exposure time: Test atmosphe Method: OECD	4 h
Acute	dermal toxicity	:	LD50 (Rat): > 5	5.000 mg/kg
lverme	ectin:			
Acute	oral toxicity	:	LD50 (Rat): 50	mg/kg
			LD50 (Mouse):	25 mg/kg
			Symptoms: Vo): > 24 mg/kg Central nervous system miting, Dilatation of the pupil nortality observed at this dose.
Acute	inhalation toxicity	:	LC50 (Rat): 5,1 Exposure time: Test atmosphe	1 h _
Acute	dermal toxicity	:	LD50 (Rabbit):	406 mg/kg
			LD50 (Rat): > 6	

Causes skin irritation.



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Comp	oonents:			
	thyl-2-pyrrolidone:			
Resul		:	Skin irritation	
	-	-		
lverm	ectin:			
Speci		:	Rabbit	
Resul	t	:	No skin irritation	
	us eye damage/eye i es serious eye irritatio		on	
	oonents:			
	thyl-2-pyrrolidone:			
Speci		:	Rabbit	
Resul		:		reversing within 21 days
lverm	ectin:			
Speci		:	Rabbit	
Resul	t	:	Mild eye irritatior	1
Resp	iratory or skin sensi	tizatio	n	
-	sensitization			
-	sensitization assified based on ava	ilable	information.	
Not cl Resp i	assified based on avainatory sensitization			
Not cl Resp i	assified based on ava			
Not cl Resp i Not cl	assified based on avainatory sensitization			
Not cl Respi Not cl <u>Comp</u>	assified based on avainatory sensitization assified based on avaination			
Not cl Respi Not cl Comp N-Met Test 1	assified based on ava iratory sensitization assified based on ava <u>conents:</u> thyl-2-pyrrolidone: Fype		information. Local lymph nod	e assay (LLNA)
Not cl Respi Not cl Comp N-Met Test T Route	assified based on ava iratory sensitization assified based on ava <u>conents:</u> thyl-2-pyrrolidone: Type as of exposure		information. Local lymph nod Skin contact	e assay (LLNA)
Not cl Respi Not cl Comp N-Met Test T Route Speci	assified based on ava iratory sensitization assified based on ava <u>conents:</u> thyl-2-pyrrolidone: Type as of exposure es		information. Local lymph nod Skin contact Mouse	
Not cl Respi Not cl Comp N-Met Test T Route	assified based on ava iratory sensitization assified based on ava <u>conents:</u> thyl-2-pyrrolidone: Type is of exposure es od		information. Local lymph nod Skin contact Mouse OECD Test Guic	
Not cl Respi Not cl Comp N-Me Test T Route Speci Metho	assified based on avainatory sensitization assified based on avainatory conents: thyl-2-pyrrolidone: Type thys of exposure es thyline to the total total total total total total tot		information. Local lymph nod Skin contact Mouse OECD Test Guic negative	
Not cl Respi Not cl Comp N-Met Test T Route Speci Metho Resul Rema	assified based on avainatory sensitization assified based on avainatory conents: thyl-2-pyrrolidone: Type thys of exposure es thyline to the total total total total total total tot		information. Local lymph nod Skin contact Mouse OECD Test Guic negative	leline 429
Not cl Respi Not cl Comp N-Met Test T Route Speci Metho Resul Rema	assified based on avainatory sensitization assified based on avainator conents: thyl-2-pyrrolidone: Type as of exposure es bod t t	ilable : : :	information. Local lymph nod Skin contact Mouse OECD Test Guic negative	leline 429
Not cl Respi Not cl Comp N-Met Test T Route Speci Metho Resul Rema Nerm Route Speci	assified based on avainatory sensitization assified based on avainatory sensitization assified based on avainator conents: thyl-2-pyrrolidone: Type as of exposure es od t turks ectin: as of exposure es	ilable : : :	information. Local lymph nod Skin contact Mouse OECD Test Guic negative Based on data fr Dermal Humans	leline 429 om similar materials
Not cl Respi Not cl Comp N-Met Test T Route Speci Metho Resul Rema	assified based on avainatory sensitization assified based on avainatory sensitization assified based on avainator conents: thyl-2-pyrrolidone: Type as of exposure es od t turks ectin: as of exposure es	ilable : : :	information. Local lymph nod Skin contact Mouse OECD Test Guic negative Based on data fr Dermal Humans	leline 429
Not cl Respi Not cl Comp N-Met Test T Route Speci Metho Resul Rema Not cl N-Met Resul Rema Route Speci Resul Resul Route Speci Resul Resul Rema	assified based on avainatory sensitization assified based on avainatory sensitization assified based on avainator conents: thyl-2-pyrrolidone: Type as of exposure es od t turks ectin: as of exposure es	ilable	information. Local lymph nod Skin contact Mouse OECD Test Guic negative Based on data fr Dermal Humans Does not cause s	leline 429 om similar materials
Not cl Respi Not cl Comp N-Mei Test T Route Speci Metho Resul Rema Not cl	assified based on avainatory sensitization assified based on avainatory sensitization assified based on avainator ponents: thyl-2-pyrrolidone: Type as of exposure es od t turks ectin: es of exposure es t cell mutagenicity	ilable	information. Local lymph nod Skin contact Mouse OECD Test Guic negative Based on data fr Dermal Humans Does not cause s	leline 429 om similar materials
Not cl Respi Not cl Comp N-Mei Test T Route Speci Metho Resul Rema Not cl Comp	assified based on availant iratory sensitization assified based on availant ponents: thyl-2-pyrrolidone: Type as of exposure es od t turks ectin: as of exposure es t cell mutagenicity assified based on availant	ilable	information. Local lymph nod Skin contact Mouse OECD Test Guic negative Based on data fr Dermal Humans Does not cause s	leline 429 om similar materials



ersion).1	Revision Date: 30.09.2023		DS Number: 204454-00023	Date of last issue: 04.04.2023 Date of first issue: 09.01.2017
			Method: OECD Result: negative	Test Guideline 471
				tro mammalian cell gene mutation test Test Guideline 476 e
				v damage and repair, unscheduled DNA syn- alian cells (in vitro) e
Geno	toxicity in vivo	:	cytogenetic ass Species: Mouse Application Rou	e ite: Ingestion Test Guideline 474
			cytogenetic test Species: Hamst Application Rou	te: Ingestion Test Guideline 475
lverm	nectin:			
Geno	toxicity in vitro	:	Test Type: Bact Result: negative	erial reverse mutation assay (AMES)
			thesis in mamm	a damage and repair, unscheduled DNA syn- alian cells (in vitro) Iman diploid fibroblasts e
			Test Type: Mou Result: negative	
	nogenicity lassified based on av	vailable	information.	
Com	oonents:			
N-Me	thyl-2-pyrrolidone:			
Speci		:	Rat	
	cation Route	:	Ingestion 2 Years	
Resul	sure time It	:	negative	
Speci	05		Rat	

Species	:	Rat
Application Route	:	inhalation (vapor)
Exposure time	:	2 Years
Result	:	negative

SAFETY DATA SHEET



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	Iverme Species Applica NOAEL Result Remark	s ition Route -	:	Rat Oral 1,5 mg/kg body w negative Based on data fro	eight m similar materials
	Species Applica NOAEL Result Remark	ition Route -	:	Mouse Oral 2,0 mg/kg body w negative Based on data fro	eight m similar materials
	May da	ductive toxicity Image the unborn child Innents:	-		
		nyl-2-pyrrolidone: on fertility	:	Test Type: Two-g Species: Rat Application Route Method: OECD Te Result: negative	
	Effects	on fetal development	:	Test Type: Embry Species: Rat Application Route Method: OECD Te Result: positive	•
				Species: Rat	/early embryonic development : inhalation (vapor)
				Test Type: Embry Species: Rabbit Application Route Result: positive	o-fetal development : Ingestion
	Reprod sessme	luctive toxicity - As- ent	:	Clear evidence of animal experimen	adverse effects on development, based on ts.
	lverme	ctin:			
	Effects	on fertility	:		
	Effects	on fetal development	:	Test Type: Develo Species: Mouse Application Route	



rsion .1	Revision Date: 30.09.2023		OS Number: 04454-00023	Date of last issue: 04.04.2023 Date of first issue: 09.01.2017
			Result: Teratog	Toxicity: NOAEL: 0,2 mg/kg body weight enic effects., Embryotoxic effects and advers ffspring were detected only at high maternally
			Result: Embryo offspring were of	Ite: Oral Toxicity: LOAEL: 0,4 mg/kg body weight toxic effects and adverse effects on the detected. nechanism or mode of action may not be rele
				t
	F-single exposure cause respiratory irrita	ation.		
-	cause damage to orga	ans (Ce	entral nervous sy	stem) if swallowed.
Com	ponents:	ans (Ce	entral nervous sy	stem) if swallowed.
<u>Com</u> N-Me		ans (Ce :		stem) if swallowed. Diratory irritation.
Comj N-Me Asses	ponents: thyl-2-pyrrolidone:	ans (Ce :		
Com N-Me Asses Iverm Targe	ponents: thyl-2-pyrrolidone: ssment	ans (Ce : :		piratory irritation.
Comj N-Me Asses Iverm Targe Asses STOT May o	ponents: thyl-2-pyrrolidone: ssment hectin: et Organs ssment F-repeated exposure	:	May cause resp Central nervous Causes damag	biratory irritation. s system e to organs.
Com N-Me Asses Iverm Targe Asses STOT May o if swa	ponents: thyl-2-pyrrolidone: ssment nectin: et Organs ssment F-repeated exposure cause damage to orga	:	May cause resp Central nervous Causes damag	biratory irritation. s system e to organs.
Com N-Me Asses Iverm Targe Asses STOT May o if swa Com	ponents: thyl-2-pyrrolidone: ssment et Organs ssment F-repeated exposure cause damage to orga illowed. ponents: nectin:	:	May cause resp Central nervous Causes damag	biratory irritation. s system e to organs. stem) through prolonged or repeated exposu
Com N-Me Asses Iverm Targe Asses STOT May o if swa Com Iverm Targe	ponents: thyl-2-pyrrolidone: ssment et Organs ssment F-repeated exposure cause damage to orga allowed. ponents:	:	May cause resp Central nervous Causes damag entral nervous sy Central nervous	biratory irritation. s system e to organs. stem) through prolonged or repeated exposu
Com N-Me Asses Iverm Targe Asses STOT May o if swa Com Iverm Targe Asses	ponents: thyl-2-pyrrolidone: ssment et Organs ssment F-repeated exposure cause damage to orga allowed. ponents: hectin: et Organs	:	May cause resp Central nervous Causes damag entral nervous sy Central nervous Causes damag	piratory irritation. s system e to organs. stem) through prolonged or repeated exposu
Com N-Me Asses Iverm Targe Asses STOT May o if swa Com Iverm Targe Asses Repe	ponents: thyl-2-pyrrolidone: ssment nectin: et Organs ssment F-repeated exposure cause damage to organ allowed. ponents: nectin: et Organs ssment	:	May cause resp Central nervous Causes damag entral nervous sy Central nervous Causes damag	piratory irritation. s system e to organs. stem) through prolonged or repeated exposu
Com N-Me Asses Iverm Targe Asses STOT May o if swa Com Targe Asses Repe Com	ponents: thyl-2-pyrrolidone: ssment nectin: et Organs ssment F-repeated exposure cause damage to organ allowed. ponents: nectin: et Organs ssment ated dose toxicity	:	May cause resp Central nervous Causes damag entral nervous sy Central nervous Causes damag	piratory irritation. s system e to organs. stem) through prolonged or repeated exposu



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	ation Route ure time d	: Ingestion : 90 Days : OECD Test Gu	ideline 408
	L L ation Route ure time	: Rat : 0,5 mg/l : 1 mg/l : inhalation (dus : 96 Days : OECD Test Gu	
	L	: Rabbit : 826 mg/kg : 1.653 mg/kg : Skin contact : 20 Days	
Expos Target Sympt Specie NOAE Applic	es L L ation Route ure time t Organs oms	 Dog 0,5 mg/kg 1 mg/kg Oral 14 Weeks Central nervou Dilatation of the Monkey 1,2 mg/kg Oral 2 Weeks 	s system e pupil, Tremors, Lack of coordination, anorexia
Remai Specie NOAE LOAE Applic Expos	rks es L		adverse effects were reported narrow, Kidney
-	ation toxicity assified based on avail	able information.	
-	ience with human exp	posure	
	<u>onents:</u>		
Skin c	hyl-2-pyrrolidone: ontact	: Symptoms: Sk	in irritation
Ivermo Skin c Eye cc Ingesti	ontact ontact	: Remarks: May : Symptoms: Dro	be absorbed through skin. irritate eyes. owsiness, Dilatation of the pupil, Tremors, Vom- Lack of coordination





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ECTION	I 12. ECOLOGICAL INFO	DRN	IATION	
Ecot	oxicity			
<u>Com</u>	ponents:			
N-Me	ethyl-2-pyrrolidone:			
Τοχία	city to fish	:	LC50 (Oncorhync Exposure time: 96	hus mykiss (rainbow trout)): > 500 mg/l ≿h
	city to daphnia and other tic invertebrates	:	EC50 (Daphnia m Exposure time: 24 Method: DIN 384	
Toxic plant	city to algae/aquatic s	:	ErC50 (Desmode Exposure time: 72	smus subspicatus (green algae)): 600,5 mg 2 h
			EC10 (Desmodes Exposure time: 72	mus subspicatus (green algae)): 92,6 mg/l 2 h
aqua	city to daphnia and other tic invertebrates (Chron- kicity)	:	NOEC (Daphnia r Exposure time: 2' Method: OECD T	
Toxic	city to microorganisms	:	EC50: > 600 mg/l Exposure time: 30 Method: ISO 8192) min
lverr	nectin:			
Toxic	city to fish	:	LC50 (Oncorhync Exposure time: 96	hus mykiss (rainbow trout)): 0,003 mg/l S h
			LC50 (Lepomis m Exposure time: 96	acrochirus (Bluegill sunfish)): 0,0048 mg/l 5 h
	city to daphnia and other tic invertebrates	:	EC50 (Daphnia m Exposure time: 48	agna (Water flea)): 0,000025 mg/l 3 h
Toxic plant	city to algae/aquatic s	:	EC50 (Pseudokiro mg/l Exposure time: 72 Method: OECD To	
			NOEC (Pseudokin mg/l Exposure time: 72 Method: OECD T	
M-Fa	actor (Acute aquatic tox-	:	10.000	
icity) M-Fa toxic	actor (Chronic aquatic ity)	:	10.000	

SAFETY DATA SHEET



Ivermectin Liquid Formulation

rsion .1	Revision Date: 30.09.2023		Number: 1454-00023	Date of last issue: 04.04.2023 Date of first issue: 09.01.2017
Persi	stence and degrada	bility		
<u>Com</u>	oonents:			
N-Me	thyl-2-pyrrolidone:			
Biode	gradability	E	Biodegradation Exposure time:	
lverm	nectin:			
Biode	gradability	E	Result: Not read Biodegradation Exposure time:	
Bioad	cumulative potentia	ıl		
Com	oonents:			
N-Me	thyl-2-pyrrolidone:			
	ion coefficient: n- ol/water		og Pow: -0,46 Method: OECD	Test Guideline 107
lverm	nectin:			
Bioac	cumulation	: E	Bioconcentratio	on factor (BCF): 74
	ion coefficient: n- ol/water	: 1	og Pow: 3,22	
Mobi	lity in soil			
No da	ata available			
Othe	r adverse effects			
No da	ata available			

Disposal methods

Waste from residues :	Do not dispose of waste into sewer. Dispose of in accordance with local regulations.
Contaminated packaging :	Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG UN number

UN number	-	UN 3082
Proper shipping name	÷	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
		(Ivermectin)



or

Ivermectin Liquid Formulation

Vers 10.1		Revision Date: 30.09.2023		9S Number: 04454-00023	Date of last issue: 04.04.2023 Date of first issue: 09.01.2017
	Class Packing Labels Environ	g group Imentally hazardous	:	9 III 9 yes	
	IATA-D UN/ID I Proper	-	:	UN 3082 Environmentally h (Ivermectin)	azardous substance, liquid, n.o.s.
	Class Packing Labels Packing aircraft)	g instruction (cargo	:	9 III Miscellaneous 964	
	Packing ger airc	g instruction (passen-	:	964 yes	
	IMDG-0 UN nun Proper		:	N.O.S.	LLY HAZARDOUS SUBSTANCE, LIQUID,
	Class Packing Labels EmS Co Marine		::	(Ivermectin) 9 III 9 F-A, S-F yes	

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

Not applicable for product as supplied.

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

Safety, health and environmental regulations/legisla mixture Argentina. Carcinogenic Substances and Agents Registry.	atio :	n specific for the substance of Not applicable
Control of precursors and essential chemicals for the preparation of drugs.	:	Not applicable
The ingredients of this product are reported in the f	follo	owing inventories:

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined



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SECTION 16. OTHER INFORMATION

Revision Date	: 30.09.202	23
Date format	: dd.mm.yy	/уу

Further information

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Full text of other abbreviations

ACGIH BEI

: ACGIH - Biological Exposure Indices (BEI)

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

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



04.04.2023 09.01.2017

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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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