

according to the Hazardous Products Regulations

Flunixin Injection Formulation

	of last issue: 04/04/2023 of first issue: 02/21/2017
--	---

SECTION 1. IDENTIFICATION

Product name	:	Flunixin Injection Formulation
Other means of identification	:	No data available

Manufacturer or supplier's details

Company name of supplier	:	Merck & Co., Inc
Address	:	126 E. Lincoln Avenue
		Rahway, New Jersey U.S.A. 07065
Telephone	:	908-740-4000
Emergency telephone	:	1-908-423-6000
E-mail address	:	EHSDATASTEWARD@merck.com

Recommended use of the chemical and restrictions on use

Recommended use	:	Veterinary product
Restrictions on use	:	Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations						
Acute toxicity (Oral)	:	Category 4				
Acute toxicity (Inhalation)	:	Category 3				
Serious eye damage	:	Category 1				
Reproductive toxicity	:	Category 2				
Specific target organ toxicity - repeated exposure	:	Category 1 (Gastrointestinal tract, Kidney, Blood)				
GHS label elements						
Hazard pictograms	:					
Signal Word	:	Danger				
Hazard Statements	:	 H302 Harmful if swallowed. H318 Causes serious eye damage. H331 Toxic if inhaled. H361 Suspected of damaging fertility or the unborn child. H372 Causes damage to organs (Gastrointestinal tract, Kidney, Blood) through prolonged or repeated exposure. 				
Precautionary Statements	:	Prevention: P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read				

according to the Hazardous Products Regulations



Flunixin Injection Formulation

	P264 Wash skin th P270 Do not eat, of P271 Use only out P280 Wear protect and face protectio Response: P301 + P312 + P3 unwell. Rinse mou P304 + P340 + P3	30 IF SWALLOWED: Call a doctor if you fee					
	P301 + P312 + P3 unwell. Rinse mou P304 + P340 + P3	ith.					
	unwell. Rinse mou P304 + P340 + P3	ith.					
\ ;; (P305 + P351 + P3 water for several r and easy to do. Co CENTER.	able for breathing. Call a doctor. 338 + P310 IF IN EYES: Rinse cautiously wit ninutes. Remove contact lenses, if present ontinue rinsing. Immediately call a POISON posed or concerned: Get medical attention.					
:	Storage:						
I	P405 Store locked up.						
I	Disposal:						
	P501 Dispose of c disposal plant.	contents and container to an approved waste					

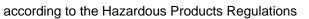
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Propylene glycol	1,2-Propanediol	57-55-6	20.72
1-deoxy-1- (methylamino)-D- glucitol 2-[2-methyl-3- (perfluorome- thyl)anilino]nicotinate	No data availa- ble	42461-84-7	8.5
Phenol	Monohy- droxybenzene	108-95-2	0.5
2,2'-Iminodiethanol	Ethanol, 2,2'- iminobis-	111-42-2	0.4
Sodium hy- droxymethanesulphi- nate	Methanesulfinic acid, hydroxy-, monosodium salt, dihydrate	6035-47-8	0.25

SECTION 4. FIRST AID MEASURES





Version 5.1	Revision Date: 09/30/2023	SDS Nu 1308640		Date of last issue: 04/04/2023 Date of first issue: 02/21/2017
General advice		advid	ce immediate n symptoms	cident or if you feel unwell, seek medical ely. persist or in all cases of doubt seek medical
lf inha	If inhaled		t breathing, g	e to fresh air. give artificial respiration. ficult, give oxygen. ation
In cas	e of skin contact	: In ca of wa Rem Get i Was	ise of contac ater. ove contami medical atter h clothing be	t, immediately flush skin with soap and plenty nated clothing and shoes.
In cas	In case of eye contact		se of contac t least 15 mi sy to do, rem	t, immediately flush eyes with plenty of water
lf swa			allowed, DO medical atter e mouth thor	NOT induce vomiting. ntion. roughly with water.
	important symptoms ffects, both acute and ed	: Harn Caus Toxio Susp Caus	 Never give anything by mouth to an unconscious perso Harmful if swallowed. Causes serious eye damage. Toxic if inhaled. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeat exposure. 	
Prote	ction of first-aiders	: First and	Aid respond use the reco	lers should pay attention to self-protection, mmended personal protective equipment al for exposure exists (see section 8).
Notes	to physician			ically and supportively.

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion prod- ucts	:	Carbon oxides Fluorine compounds Nitrogen oxides (NOx)
Specific extinguishing meth- ods	:	Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.



according to the Hazardous Products Regulations

Flunixin Injection Formulation

Vers 5.1	sion	Revision Date: 09/30/2023		0S Number: 08640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017
	Special for fire-	protective equipment fighters	:	In the event of fire Use personal prot	e, wear self-contained breathing apparatus. ective equipment.
SEC	CTION 6	. ACCIDENTAL RELE	ASI	E MEASURES	
	tive equ	al precautions, protec- uipment and emer- procedures	:		ective equipment. ing advice (see section 7) and personal ent recommendations (see section 8).
	Enviror	nmental precautions	:	Prevent spreading oil barriers). Retain and dispos	akage or spillage if safe to do so. g over a wide area (e.g., by containment or se of contaminated wash water. should be advised if significant spillages
		ls and materials for ment and cleaning up	:	For large spills, pr containment to ke can be pumped, s container. Clean up remainir absorbent. Local or national r disposal of this ma employed in the c determine which r Sections 13 and 1	absorbent material. ovide diking or other appropriate ep material from spreading. If diked material tore recovered material in appropriate ng materials from spill with suitable regulations may apply to releases and aterial, as well as those materials and items leanup of releases. You will need to egulations are applicable. 5 of this SDS provide information regarding tional 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 breathe mist or vapors. Do not swallow. Do not get in eyes. Avoid prolonged or repeated contact with skin. 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. 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.



according to the Hazardous Products Regulations

Flunixin Injection Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
5.1	09/30/2023	1308640-00018	Date of first issue: 02/21/2017
Mater	ials to avoid	: Do not store wit Strong oxidizing	bstances 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
Propylene glycol	57-55-6	TWA (Va- pour and aerosols)	50 ppm 155 mg/m³	CA ON OEL
		TWA (aero- sol)	10 mg/m³	CA ON OEL
1-deoxy-1-(methylamino)-D- glucitol 2-[2-methyl-3- (perfluorome- thyl)anilino]nicotinate	42461-84-7	TWA	40 µg/m3 (OEB 3)	Internal
	Further inform	nation: Skin		
		Wipe limit	400 µg/100 cm ²	Internal
Phenol	108-95-2	TWA	5 ppm 19 mg/m ³	CA AB OEL
		TWA	5 ppm	CA BC OEL
		TWAEV	5 ppm 19 mg/m ³	CA QC OEL
		TWA	5 ppm	ACGIH
2,2'-Iminodiethanol	111-42-2	TWA	2 mg/m ³	CA AB OEL
		TWA	2 mg/m ³	CA BC OEL
		TWAEV (in- halable frac- tion and va- pour)	1 mg/m ³	CA QC OEL
		TWA (Inhalable fraction and vapor)	1 mg/m ³	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentra- tion	Basis
Phenol	108-95-2	Phenol	Urine	End of shift (As soon as possible	250 mg/g creatinine	ACGIH BEI



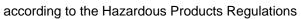
according to the Hazardous Products Regulations

Flunixin Injection Formulation

Vers 5.1			0S Number: 08640-00018				
					after exposure ceases)		
	Engineering measures	:	Use appropriate of technologies to c less quick connect All engineering co design and opera protect products, Containment tech are required to co the compound to containment devi Minimize open ha	ontrol airborr ctions). ontrols should ted in accord workers, and nologies sui- ontrol at sour- uncontrolled ces).	the concentr d be implen dance with (d the enviro table for co ce and to p	ations (e.g., d nented by faci GMP principle nment. ntrolling comp revent migrati	rip- lity s to ounds
	Personal protective equ	ipment					
	Respiratory protection	ory protection : If adequate local exhaust ventil exposure assessment demons recommended guidelines, use			strates exposures outside the		e the
	Filter type Hand protection	:	Particulates type				
	Material	:	Chemical-resista	nt gloves			
	Remarks Eye protection	:	Consider double Wear safety glass If the work enviro mists or aerosols Wear a faceshiel potential for direct aerosols.	ses with side nment or act , wear the ap d or other full	ivity involve propriate g I face prote	es dusty condi oggles. ction if there is	sa
	Skin and body protection	:	Work uniform or l Additional body g task being perfor disposable suits) Use appropriate of contaminated clo	arments sho med (e.g., sle to avoid exp degowning te	uld be used eevelets, ap osed skin s	oron, gauntlets urfaces.	5,
	Hygiene measures	:	If exposure to che eye flushing syste working place. When using do n Wash contamina The effective ope engineering contr appropriate dego industrial hygiene use of administra	emical is like ems and safe ot eat, drink of ted clothing b eration of a fa rols, proper p wning and de e monitoring,	ety showers or smoke. pefore re-us cility should personal pro econtamina medical su	close to the e. d include revie otective equipr tion procedure	ew of nent, es,

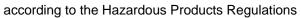
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	clear





Ver 5.1	sion	Revision Date: 09/30/2023		S Number: 98640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017
	Odor		:	No data available	
	Odor T	hreshold	:	No data available	9
	рН		:	7.8 - 9.0	
	Melting	point/freezing point	:	No data available	9
	Initial b range	oiling point and boiling	:	No data available	
	Flash p	point	:	No data available)
	Evapor	ation rate	:	No data available)
	Flamm	ability (solid, gas)	:	Not applicable	
	Flamm	ability (liquids)	:	No data available)
		explosion limit / Upper ability limit	:	No data available	
		explosion limit / Lower ability limit	:	No data available	9
	Vapor _I	pressure	:	No data available	
	Relativ	e vapor density	:	No data available	
	Relativ	e density	:	No data available)
	Density	/	:	No data available)
	Solubili Wat	ity(ies) ter solubility	:	No data available)
	Partitio octanol	n coefficient: n-	:	Not applicable	
		nition temperature	:	No data available)
	Decom	position temperature	:	No data available	
	Viscosi Visc	ty cosity, kinematic	:	No data available)
	Explosi	ive properties	:	Not explosive	
	Oxidizi	ng properties	:	The substance of	r mixture is not classified as oxidizing.
	Molecu	ılar weight	:	No data available)
	Particle	e size	:	Not applicable	





Flunixin Injection Formulation

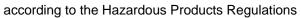
Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
5.1	09/30/2023	1308640-00018	Date of first issue: 02/21/2017

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 products	:	None known. Oxidizing agents No hazardous decomposition products are known.

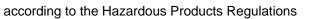
SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes Inhalation Skin contact Ingestion Eye contact Acute toxicity Harmful if swallowed. Toxic if inhaled.	of	exposure
Product: Acute oral toxicity	:	Acute toxicity estimate: 604.68 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 0.5964 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method
<u>Components:</u>		
Propylene glycol:		
Acute oral toxicity	:	LD50 (Rat): 22,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 44.9 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity
	-	citol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:





Version 5.1	Revision Date: 09/30/2023		OS Number: 08640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017
			LD50 (Mouse): 17	76 - 249 mg/kg
			LD50 (Guinea pig	g): 488.3 mg/kg
			LD50 (Monkey): 3	300 mg/kg
Acute	inhalation toxicity	:	LC50 (Rat): < 0.5 Exposure time: 4 Test atmosphere:	h
	toxicity (other routes of nistration)	:	LD50 (Rat): 59.4 Application Route	
			LD50 (Mouse): 16 Application Route	
Phen	ol:			
Acute	oral toxicity	:		mg/kg ïest Guideline 401
			Acute toxicity esti Method: Expert ju	imate (Humans): 140 - 290 mg/kg udgment
Acute	inhalation toxicity	:	LC0 (Rat): 0.9 mg Exposure time: 8 Test atmosphere: Assessment: Cor	h
			Acute toxicity esti Exposure time: 4 Test atmosphere: Method: Expert ju	: dust/mist
Acute	dermal toxicity	:	LD50 (Rabbit): 66 Method: OECD T	60 mg/kg Test Guideline 402
			Acute toxicity esti Method: Expert ju	imate (Humans): 300 mg/kg udgment
2,2'-Ir	ninodiethanol:			
Acute	oral toxicity	:	LD50 (Rat): 1,600	0 mg/kg
Acute	inhalation toxicity	:	LC50 (Rat, male) Exposure time: 4 Test atmosphere:	h
Sodiu	ım hydroxymethanesı	ılphi	inate:	
Acute	oral toxicity	:		00 mg/kg est Guideline 423 on data from similar materials
Acute	dermal toxicity	:	LD50 (Rat): > 2,0	00 mg/kg
			9 / 25	





rsion	Revision Date: 09/30/2023	SDS Number:Date of last issue: 04/04/20231308640-00018Date of first issue: 02/21/2017
		Method: OECD Test Guideline 402 Remarks: Based on data from similar materials
	corrosion/irritation	ilable information
	onents:	
	lene glycol:	
Specie	•••	: Rabbit
Metho		: OECD Test Guideline 404
Result	:	: No skin irritation
1-deo	xy-1-(methylamino)·	D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinat
Specie		: Rabbit
Result		: Mild skin irritation
Pheno	bl:	
Specie	es	: Rabbit
Result		: Corrosive after 3 minutes to 1 hour of exposure
2,2'-In	ninodiethanol:	
Specie		: Rabbit
Result	:	: Skin irritation
Sodiu	m hydroxymethane	sulphinate:
Specie		: Rat
Result Rema		: No skin irritation : Based on data from similar materials
Rema	IKS	. Dased on data from similar materials
	us eye damage/eye i	
	s serious eye damag	e.
<u>Comp</u>	onents:	
Propy	lene glycol:	
Specie		: Rabbit
Result		: No eye irritation
Metho		: OECD Test Guideline 405
4		D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate
	~~	: Rabbit
Specie		Irrovorable offects on the even
		: Irreversible effects on the eye
Specie		: Irreversible effects on the eye
Specie Result Phence Specie	bl: es	: Rabbit
Specie Result Phenc	bl: es	



according to the Hazardous Products Regulations

Flunixin Injection Formulation

ersion .1	Revision Date: 09/30/2023	SDS Number: 1308640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017
2.2'-l	minodiethanol:		
Spec		: Rabbit	
Resu		: Irreversible effe	ects on the eye
Sodiu	um hydroxymethane	esulphinate:	
Spec	ies	: Rabbit	
Resu	lt	: No eye irritation	
Meth		: OECD Test Gu	
Rema	arks	: Based on data	from similar materials
Resp	iratory or skin sens	itization	
Skin	sensitization		
Not c	lassified based on ava	ailable information.	
	iratory sensitization lassified based on ava		
	ponents:		
Prop	ylene glycol:		
Test	Туре	: Maximization T	est
	es of exposure	: Skin contact	
Spec		: Guinea pig	
Resu	It	: negative	
1-dec	oxy-1-(methylamino)	-D-glucitol 2-[2-methy	/l-3-(perfluoromethyl)anilino]nicotinate
Test		: Maximization T	est
	es of exposure	: Dermal	
Spec		: Guinea pig	
	ssment		e skin sensitization.
Resu	IL	: negative	
Phen	ol:		
Test		: Buehler Test	
	es of exposure	: Skin contact	
Spec		: Guinea pig	
Metho Resu		: OECD Test Gu : negative	IIdeline 406
2.2'-lı	minodiethanol:		
Test		: Maximization T	est
	es of exposure	: Skin contact	
Speci		: Guinea pig	
Math			ideline 100

Sodium hydroxymethanesulphinate:

Method

Result

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact

: OECD Test Guideline 406

: negative



according to the Hazardous Products Regulations

Version 5.1	Revision Date: 09/30/2023	SDS Number: 1308640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017				
Speci Metho Resu Rema	od It	: negative	OECD Test Guideline 406				
Germ cell mutagenicity Not classified based on available information.							
Com	oonents:						
Prop	ylene glycol:						
Geno	toxicity in vitro	: Test Type: Ba Result: negat	acterial reverse mutation assay (AMES) ive				
			nromosome aberration test in vitro D Test Guideline 473 ive				
Geno	toxicity in vivo	cytogenetic a Species: Mou	se oute: Intraperitoneal injection				
	oxy-1-(methylamino) toxicity in vitro		nyl-3-(perfluoromethyl)anilino]nicotinate: acterial reverse mutation assay (AMES) ive				
		Test Type: in Test system: Result: positiv	mouse lymphoma cells				
			nromosomal aberration Chinese hamster ovary cells /e				
		Test Type: in Test system: Result: positiv	Escherichia coli				
Geno	toxicity in vivo	: Test Type: M Species: Mou Application R Result: negat	oute: Oral				
	cell mutagenicity -	: Weight of evic cell mutagen.	dence does not support classification as a germ				
Phen	ol:						
-	toxicity in vitro		nromosome aberration test in vitro D Test Guideline 473 /e				
		12/2	25				



according to the Hazardous Products Regulations

Flunixin Injection Formulation

Version 5.1	Revision Date: 09/30/2023		DS Number: 08640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017	
0		_	T		
Ger	Genotoxicity in vivo		Test Type: Mammalian erythrocyte micronucleus test cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: positive Remarks: Annex VI From 1272/2008		
	m cell mutagenicity - essment	:	Positive result(s) f genicity tests.	from in vivo mammalian somatic cell muta-	
2,2'	-Iminodiethanol:				
	notoxicity in vitro	:	Test Type: Bacter Result: negative	ial reverse mutation assay (AMES)	
			Test Type: In vitro Result: negative	mammalian cell gene mutation test	
			Test Type: Chrom Result: negative	nosome aberration test in vitro	
			Test Type: In vitro malian cells Result: negative	sister chromatid exchange assay in mam-	
Ger	notoxicity in vivo	:	Test Type: Mamm cytogenetic assay Species: Mouse Application Route Result: negative		
Soc	dium hydroxymethanesu	lph	inate:		
	notoxicity in vitro	-	Test Type: Bacter Method: OECD Te Result: negative	ial reverse mutation assay (AMES) est Guideline 471 on data from similar materials	
Ger	notoxicity in vivo	:	cytogenetic assay Species: Mouse Application Route Method: OECD To Result: positive	: Intraperitoneal injection	
	m cell mutagenicity - essment	:	Positive result(s) f genicity tests.	from in vivo mammalian somatic cell muta-	

Carcinogenicity

Not classified based on available information.



according to the Hazardous Products Regulations

Flunixin Injection Formulation

Versior 5.1	n Revision Date: 09/30/2023	SDS Number: 1308640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017
<u>Co</u>	omponents:		
Pr	ropylene glycol:		
Sp Ap E>	pecies pplication Route xposure time esult	: Rat : Ingestion : 2 Years : negative	
1-	deoxy-1-(methylamino)-	D-glucitol 2-[2-methy	I-3-(perfluoromethyl)anilino]nicotinate:
Ap E> LC Re Ta	pecies oplication Route xposure time DAEL esult arget Organs emarks	 Rat oral (feed) 104 w 2 mg/kg body w negative Gastrointestinal Significant toxic 	
Ar E> N(Re Ta	pecies oplication Route xposure time OAEL esult arget Organs emarks	: Mouse : oral (feed) : 97 w : 0.6 mg/kg body : negative : Gastrointestinal : Significant toxic	-
Pł	henol:		
Ap E> Me	pecies oplication Route xposure time ethod esult	: Mouse : Ingestion : 103 weeks : OECD Test Gui : negative	deline 451
2.3	2'-Iminodiethanol:		
Ar E> Re	pecies oplication Route xposure time esult emarks	: Mouse : Skin contact : 103 weeks : positive : The mechanism mans.	n or mode of action may not be relevant in hu-
Ar E>	pecies oplication Route xposure time esult	: Rat : Skin contact : 103 weeks : negative	
	arcinogenicity - Assess- ent	: Weight of evide cinogen	nce does not support classification as a car-

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

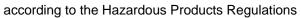


according to the Hazardous Products Regulations

Flunixin Injection Formulation

/ersi 5.1	ion	Revision Date: 09/30/2023		S Number: 08640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017		
	<u>Compc</u>	onents:					
	Propylene glycol: Effects on fertility		:	Test Type: Two-generation reproduction toxicity study Species: Mouse Application Route: Ingestion Result: negative			
	Effects on fetal development		:	Test Type: Embryo-fetal development Species: Mouse Application Route: Ingestion Result: negative			
		y-1-(methylamino)-D - on fertility	-glu :	Test Type: Two-g Species: Rat Application Route General Toxicity F Symptoms: No fet	Parent: LOAEL: 1 - 1.5 mg/kg body weight al abnormalities. on fertility and early embryonic		
	Effects on fetal development		:	Embryo-fetal toxic Result: Embryotox			
				Species: Rabbit Application Route General Toxicity M Embryo-fetal toxic Result: Embryotox	o-fetal development : Oral /aternal: LOAEL: 3 mg/kg body weight ity.: NOAEL: 3 mg/kg body weight kic effects and adverse effects on the ected only at high maternally toxic doses		
	Pheno	l:					
	Effects	on fertility	:	Test Type: Two-g Species: Rat Application Route Method: OECD Te Result: negative			
	Effects	on fetal development	:	Test Type: Embry Species: Mouse Application Route Method: OECD Te Result: negative			

2,2'-Iminodiethanol:





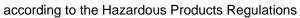
1	Revision Date: 09/30/2023		0S Number: 08640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017	
Effects on fertility		:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Method: OECD Test Guideline 443 Result: positive		
Effects on fetal development		:	Species: Rat Application Rou	-generation reproduction toxicity study te: Ingestion Test Guideline 443	
Reprod sessme	uctive toxicity - As- ent	:		of adverse effects on sexual function and on development, based on animal experiments.	
Sodiun	n hydroxymethanesu	lph	inate:		
Effects on fertility		:	reproduction/de Species: Rat Application Rou Method: OECD Result: negative	Test Guideline 422	
Effects on fetal development		:	Test Type: Embryo-fetal development Species: Rat Application Route: Ingestion Method: OECD Test Guideline 414 Result: positive Remarks: Based on data from similar materials		
Reprod sessme	uctive toxicity - As- ent	:	Some evidence animal experime	of adverse effects on development, based on ents.	
	single exposure ssified based on availa	able	information.		
<u>Compo</u>	onents:				
1-deox	y-1-(methylamino)-D-	-glu	citol 2-[2-methy	I-3-(perfluoromethyl)anilino]nicotinate:	
Assess	ment	:	May cause resp	iratory irritation.	
		astr	ointestinal tract,	Kidney, Blood) through prolonged or repeated	
<u>Compo</u>	onents:				

1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:						
Target Organs Assessment	 Gastrointestinal tract, Kidney, Blood Causes damage to organs through prolonged or repeated exposure. 					



according to the Hazardous Products Regulations

Version 5.1	09/30/2023	SDS Number:Date of last issue: 04/04/20231308640-00018Date of first issue: 02/21/2017			
Ph	enol:				
Та	get Organs sessment	 Central nervous system, Kidney, Liver, Skin May cause damage to organs through prolonged or repeated exposure. 			
2,2	-Iminodiethanol:				
Tai	utes of exposure get Organs sessment	 Ingestion Kidney, Blood, Liver, Nervous system Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw. 			
Tai	utes of exposure get Organs sessment	 inhalation (dust/mist/fume) Kidney, Blood Shown to produce significant health effects in animals at concentrations of >0.02 to 0.2 mg/l/6h/d. 			
Tai	utes of exposure get Organs sessment	 Skin contact Blood, Liver, Kidney Shown to produce significant health effects in animals at concentrations of >20 to 200 mg/kg bw. 			
Re	peated dose toxicity				
<u>Co</u>	<u>mponents:</u>				
Pro	pylene glycol:				
NC Apj	ecies AEL plication Route posure time	 Rat, male >= 1,700 mg/kg Ingestion 2 y 			
1-d	eoxy-1-(methylamino)-D	-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:			
Spo NC LO Apj Exp	ecies AEL AEL Dication Route Dosure time get Organs				
NC Apj Exj	ecies AEL blication Route bosure time get Organs	 Rat 1 mg/kg Oral 1 y Gastrointestinal tract, Kidney 			
NC Apj Exj	ecies AEL blication Route bosure time get Organs	 Monkey 15 mg/kg Oral 90 d Gastrointestinal tract, Blood 			
Spe	ecies	: Rabbit			





Version 5.1	Revision Date: 09/30/2023	SDS Number: 1308640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017
	ation Route ure time	: 80 mg/kg : Dermal : 21 d : Severe irritation	1
Expos	L ation Route ure time t Organs	: Dog : 11 mg/kg : Oral : 9 d : Gastrointestinal : Vomiting	tract
Pheno	bl:		
	L ation Route ure time	: Rat : 300 mg/kg : Ingestion : 90 Days : OECD Test Gui	ideline 408
		: Rat : >= 0.1 mg/l : inhalation (vapo : 74 Days	or)
		: Rabbit : 260 mg/kg : Skin contact : 18 Days	
2,2'-In	ninodiethanol:		
		: Rat, female : 14 mg/kg : Ingestion : 13 Weeks	
	L ation Route ure time	: Rat : 0.015 mg/l : inhalation (dust : 90 Days : OECD Test Gui	
		: Rat : 32 mg/kg : Skin contact : 13 Weeks	
Sodiu	m hydroxymethanes	ulphinate:	
Specie NOAE Applica	es L ation Route ure time	: Rat : 600 mg/kg : Ingestion : 90 Days : OECD Test Gui	ideline 408



according to the Hazardous Products Regulations

Flunixin Injection Formulation

ersion .1	Revision Date: 09/30/2023	SDS Number: 1308640-000						
Remarks		: Based on	: Based on data from similar materials					
Aspir	ation toxicity							
Not c	lassified based on ava	ailable information						
Expe	rience with human e	xposure						
<u>Com</u>	oonents:							
1-dec	oxy-1-(methylamino)	D-glucitol 2-[2-n	nethyl-3-(perfluoromethyl)anilino]nicotinate:					
Inhala	ation	: Symptoms	s: respiratory tract irritation					
Skin o	contact		: Skin irritation					
	ontact		: Severe irritation					
Inges	tion		s: Gastrointestinal disturbance, bleeding, hyperten- ey disorders					
ECTION	12. ECOLOGICAL IN	FORMATION						
Ecoto								

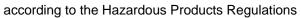
Product:

Product:		
Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
		NOEC (Pseudokirchneriella subcapitata (green algae)): 32 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Components:		
Propylene glycol:		
Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia dubia (water flea)): 18,340 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Skeletonema costatum (marine diatom)): 19,300 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to daphnia and other	:	NOEC (Ceriodaphnia dubia (water flea)): 13,020 mg/l



according to the Hazardous Products Regulations

ersion 1	Revision Date: 09/30/2023	-	S Number: 08640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017
aquati ic toxi	c invertebrates (Chron- city)		Exposure time: 7	d
	ty to microorganisms	:	NOEC (Pseudom Exposure time: 1	nonas putida): > 20,000 mg/l 8 h
1-deo	xy-1-(methylamino)-D-	glu	citol 2-[2-methyl-	3-(perfluoromethyl)anilino]nicotinate:
Toxici	ty to fish	:	LC50 (Lepomis n Exposure time: 9 Method: FDA 4.1	
			LC50 (Oncorhynd Exposure time: 9 Method: FDA 4.1	
	ty to daphnia and other c invertebrates	:	EC50 (Daphnia n Exposure time: 4 Method: FDA 4.0	
Toxici plants	ty to algae/aquatic	:	NOEC (Microcyst Exposure time: 1 Method: FDA 4.0	
			NOEC (Selenasti Exposure time: 1.	rum capricornutum (green algae)): 96 mg. 2 d
Phene	ol:			
Toxici	ty to fish	:	LC50 (Pimephale Exposure time: 9	es promelas (fathead minnow)): 24.9 mg/l 6 h
	ty to daphnia and other c invertebrates	:	EC50 (Ceriodaph Exposure time: 4	nnia dubia (water flea)): 3.1 mg/l 8 h
Toxici plants	ty to algae/aquatic	:	EC50 (Selenastru Exposure time: 9	um capricornutum (green algae)): 61.1 mg 6 h
Toxici icity)	ty to fish (Chronic tox-	:	NOEC: 0.077 mg Exposure time: 6	
	ty to daphnia and other c invertebrates (Chron-	:	NOEC (Daphnia Exposure time: 1	magna (Water flea)): 10 mg/l 6 d
	ty to microorganisms	:	IC50 (Nitrosomor Exposure time: 2	
2,2'-In	ninodiethanol:			
Toxici	ty to fish	:	LC50 (Oncorhynd Exposure time: 9	chus mykiss (rainbow trout)): 460 mg/l 6 h
	ty to daphnia and other c invertebrates	:	EC50 (Ceriodaph Exposure time: 4	nnia dubia (water flea)): 30.1 mg/l 8 h
			ErC50 (Pseudoki	





ersion 1	Revision Date: 09/30/2023		9S Number: 08640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017
plants	3		mg/l Exposure time: 72	2 h
			EC10 (Pseudokiro mg/l Exposure time: 72	chneriella subcapitata (green algae)): 1.1 ? h
	ity to daphnia and other ic invertebrates (Chron-	:	EC10 (Daphnia m Exposure time: 21	agna (Water flea)): 1.05 mg/l d
	ity to microorganisms	:	EC10 (activated s Exposure time: 30 Method: OECD Te	
Sodiu	Im hydroxymethanesu	lphi	nate:	
Toxici	ity to fish	:	Exposure time: 96	dus (Golden orfe)): > 10,000 mg/l 5 h on data from similar materials
	ity to daphnia and other ic invertebrates	:	Exposure time: 48 Method: OECD Te	
Toxici plants	ity to algae/aquatic	:	Exposure time: 72 Method: OECD Te	
Toxici icity)	ity to fish (Chronic tox-	:	Exposure time: 35 Method: OECD Te	
	ity to daphnia and other ic invertebrates (Chron- icity)	:	Exposure time: 21 Method: OECD Te	
Toxici	ity to microorganisms	:	Exposure time: 4	
Persi	stence and degradabili	ty		
<u>Comp</u>	oonents:			
Propy	vlene glycol:			
Biode	gradability	:	Result: Readily bi Biodegradation: S Exposure time: 28 Method: OECD Te	98.3 %



according to the Hazardous Products Regulations

Flunixin Injection Formulation

rsion	Revision Date: 09/30/2023		S Number: 08640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017	
1-deo	oxy-1-(methylamino)	-D-glu	citol 2-[2-methy	vl-3-(perfluoromethyl)anilino]nicotinate:	
Stabil	ity in water	:	Hydrolysis: 0 %	o(28 d)	
Phen	ol:				
Biode	gradability	:	Biodegradation Exposure time:		
2,2'-Ir	ninodiethanol:				
Biodegradability		:	Result: Readily biodegradable. Biodegradation: 93 % Exposure time: 28 d Method: OECD Test Guideline 301F		
Sodiu	ım hydroxymethane	sulphi	nate:		
Biodegradability		:	Result: Readily biodegradable. Biodegradation: 77 % Exposure time: 28 d Method: OECD Test Guideline 301B Remarks: Based on data from similar materials		
Bioac	cumulative potentia	al			
<u>Comp</u>	oonents:				
	/lene glycol:				
	on coefficient: n- ol/water	:	log Pow: -1.07 Method: Regula	on (EC) No. 440/2008, Annex, A.8	
1-deo	xy-1-(methylamino)	-D-glu	citol 2-[2-methy	rl-3-(perfluoromethyl)anilino]nicotinate:	
	on coefficient: n- ol/water	:	log Pow: 1.34		
Phen	-				
Bioac	cumulation	:		on factor (BCF): 17.5 Test Guideline 305	
	on coefficient: n- ol/water	:	log Pow: 1.47		
	ninodiethanol:				
	on coefficient: n- ol/water	:	log Pow: -2.46 Method: OECD	Test Guideline 107	
Mobil	ity in soil				
C a mar	ononte:				

Components:

1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:



according to the Hazardous Products Regulations

Flunixin Injection Formulation

ersion .1	Revision Date: 09/30/2023		DS Number: 308640-00018	Date of last issue: 04/04/2023 Date of first issue: 02/21/2017
	bution among environ- al compartments	:	log Koc: 1.92	
Other adverse effects No data available				
INO U				
	13. DISPOSAL CONSI	DEF	RATIONS	
ECTION		DEF	RATIONS	
ECTION	13. DISPOSAL CONSI	DEF :	Do not dispose	of waste into sewer.

International Regulations

UNRTDG

Not regulated as a dangerous good

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.

Domestic regulation

TDG Not regulated as a dangerous good

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

The ingredients of this product are reported in the following inventories:

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

SECTION 16. OTHER INFORMATION

Full text of other abbreviation	ons	
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)

according to the Hazardous Products Regulations



Flunixin Injection Formulation

Version 5.1	Revision Date: 09/30/2023		ssue: 04/04/2023 ssue: 02/21/2017		
ACGI		: ACGIH - Biological Exposure In			
CA AE	3 OEL	: Canada. Alberta, Occupational I 2: OEL)	Health and Safety Code (table		
CA BC OEL		Canada. British Columbia OEL			
CA ON OEL		Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.			
CA Q	COEL	: Québec. Regulation respecting ty, Schedule 1, Part 1: Permissil borne contaminants			
ACGIH / TWA		8-hour, time-weighted average			
CA AB OEL / TWA		8-hour Occupational exposure limit			
CA BO	C OEL / TWA	: 8-hour time weighted average			
CA OI	N OEL / TWA	: Time-Weighted Average Limit (1			
CA Q	C OEL / TWAEV	: Time-weighted average exposure	e value		

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

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/
Revision Date Date format	:	09/30/2023 mm/dd/yyyy



according to the Hazardous Products Regulations

Flunixin Injection Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
5.1	09/30/2023	1308640-00018	Date of first issue: 02/21/2017

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.

CA / Z8