

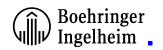
Frontline® pump spray

Versio 2.1	on	Revision Date: 03/13/2017		DS Number: 0000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
SECT	ION 1	. IDENTIFICATION			
Р	roduc	t name	:	Frontline® pump	spray
S	Synony	rms	:	with API: Fipronil Frontline® Spray	against fleas and ticks
N	lanufa	acturer or supplier's	deta	ails	
С	Compa	ny name of supplier	:	Boehringer Ing. P	harma GmbH & Co.KG
A	ddres	S	:	Binger Str. 173 Ingelheim am Rhe	ein 07 55216
Т	eleph	one	:	+498007790900	
Р	Prepare	ed by	:	EHS-Services@E	oehringer-Ingelheim.com
	Emerge er	ency telephone num-	:	Int. Emergency To Chemtrec 24-hou	elephone number: +1 703-527-3887 rs
R	Recom	mended use of the c	hen	nical and restriction	ons on use
R	Recom	mended use	:	Pharmaceutical	
R	Restric	tions on use	:	Safety Data Shee	t only for the professional user.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accore	dan	ce with 29 CFR 1910.1200
Flammable liquids	:	Category 2
Eye irritation	:	Category 2A
Specific target organ toxicity - single exposure	:	Category 3 (Central nervous system)
GHS label elements		
Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
Precautionary statements	:	Prevention:





ersion I	Revision Date: 03/13/2017	SDS Number: 000000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
		No smoking. P233 Keep con P240 Ground/b P241 Use explo ment. P242 Use only P243 Take pred P261 Avoid bre P264 Wash ski P271 Use only	ay from heat/sparks/open flames/hot surfaces. tainer tightly closed. bond container and receiving equipment. osion-proof electrical/ ventilating/ lighting/ equip- non-sparking tools. cautionary measures against static discharge. eathing dust/ fume/ gas/ mist/ vapours/ spray. n thoroughly after handling. outdoors or in a well-ventilated area. tective gloves/ eye protection/ face protection.
		Response:	
		all contaminate P304 + P340 + and keep comfor CENTER/docto P305 + P351 + for several minute P337 + P313 If tion. P370 + P378 Ir	P353 IF ON SKIN (or hair): Take off immediate d clothing. Rinse skin with water/shower. P312 IF INHALED: Remove person to fresh ai ortable for breathing. Call a POISON or if you feel unwell. P338 IF IN EYES: Rinse cautiously with water utes. Remove contact lenses, if present and ea e rinsing. eye irritation persists: Get medical advice/ atte n case of fire: Use dry sand, dry chemical or alc am to extinguish.
		Storage:	
		tightly closed.	tore in a well-ventilated place. Keep container tore in a well-ventilated place. Keep cool. ked up.
		Disposal:	
		P501 Dispose o posal plant.	of contents/ container to an approved waste dis
Othe	r hazards		
None	known.		

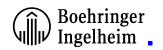
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Mixture
Chemical nature	:	organic

Substance name	:	with API: Fipronil
----------------	---	--------------------

Hazardous components

1011 (% W/W)	Concentration (% v	CAS-No.	Chemical name
< 90	>= 70 - < 90	67-63-0	Isopropyl alcohol
<	>= 70 - <	07-03-0	торгоругасопог



Frontline® pump spray

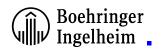
Version 2.1	Revision Date: 03/13/2017		DS Number: 00000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
SECTION	4. FIRST AID MEASUR	RES		
Gene	eral advice	:	vice immediately First Aid respon- and use the reco Remove from ex Take off immedi	ccident or if you feel unwell, seek medical ad- y (show the label where possible). ders should pay attention to self-protection ommended protective clothing kposure, lie down. ately all contaminated clothing. yn in the recovery position, cover and keep him
lf inh	aled	:	Move to fresh ai	r.
In ca	se of skin contact	:	Wash off immed	liately with plenty of water.
In ca	se of eye contact	:		ely with plenty of water for at least 15 minutes. open while rinsing.
lf swa	allowed	:	Rinse mouth. Drink plenty of v	vater.
	important symptoms effects, both acute and red	:	No information a Causes serious May cause drow	
Note	s to physician	:	medicinal produ	nmary of product characteristics of proprietary cts eatment (decontamination, vital functions).

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment. Water Dry chemical Foam Carbon dioxide (CO2)
Specific hazards during fire- fighting	:	In case of fire and/or explosion do not breathe fumes. Can be released in case of fire: Carbon oxides
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. complete suit protecting against chemicals

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- : Wear personal protective equipment.



Frontline® pump spray

Versi 2.1	on Revision Date: 03/13/2017		DS Number: 00000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
	tive equipment and emer- gency procedures		Ensure adequate High risk of slippi	ventilation. ng due to leakage/spillage of product.
I	Environmental precautions	:	Do not flush into	surface water or sanitary sewer system.
-	Methods and materials for containment and cleaning up	:	Pick up and trans	fer to properly labelled containers.

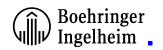
SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Keep away from heat and sources of ignition.
Advice on safe handling	:	Provide sufficient air exchange and/or exhaust in work rooms.
Conditions for safe storage	:	Protect from heat and direct sunlight.
Materials to avoid	:	Keep away from food, drink and animal feedingstuffs. Advice on Segregation

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Isopropyl alcohol	propan-2-ol	TWA	200 ppm 492 mg/m3	CA AB OEL
		STEL	400 ppm 984 mg/m3	CA AB OEL
		TWA	200 ppm	CA BC OEL
		STEL	400 ppm	CA BC OEL
		TWAEV	400 ppm 983 mg/m3	CA QC OEL
		STEV	500 ppm 1,230 mg/m3	CA QC OEL
		TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	NIOSH REL
		ST	500 ppm 1,225 mg/m3	NIOSH REL
		TWA	400 ppm 980 mg/m3	OSHA Z-1
		TWA	400 ppm 980 mg/m3	OSHA P0



Frontline® pump spray

sion	Revision Date: 03/13/2017			umber:)049035		Date of las Date of firs				
					ST	TEL	500 ppm 1,225 mg	j/m3	05	SHA PO
Biolo	gical occupational	expos	ure li	mits						
Comp	onents	CAS-N	No.	Control paramete	rs	Biological specimen	Sam- pling time	Permissi concentr tion		Basis
Isopro nol	opanol, Isopropa-	67-63 67-63		Acetone		Urine	End of shift at end of work- week	40 mg/l		ACGIH BEI
Engir	neering measures	:	Not	applicable						
Perso	onal protective equ	ipmen	t							
Respi	ratory protection	:	Use	e NIOSH a	opro	oved respira	tory protect	tion.		
Ma Bro Glo Dir	protection aterial eak through time ove thickness rective otective index	:	480 0.43 Pro	ile rubber) min 3 mm tective glov ss 6	/es	against che	micals and	micro-org	anis	ms
Eye p	rotection	:	eye	contact w	th t	protection w he product c th side-shiel	cannot be e		inad	vertent
Skin a	and body protection	:	Pro	tective wor	k c	lothing				
Protec	ctive measures	:	pra Avc Onl al/ir abc	ctice. bid contact y use prote nternationa but wearing	with ectiv I re pe	ance with go n skin, eyes ve equipmer gulations. Fo rsonal prote anufacturer f	and clothin It in accord Iollow the na Ioliow the na	g. ance with ational reg ment and t	natio ulati	on- ons
Hygie	ne measures	:	Wa har	sh hands a Idling the p	ind rod	l hygiene pra face before uct. thes separat	breaks and	l immediat	ely a	after

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	No data available
Odour	:	alcohol-like



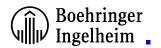
Frontline® pump spray

Version 2.1	Revision Date: 03/13/2017	SDS Numbe 0000000490		te of last issue: 03/13/2017 te of first issue: 02/17/2017
pН		: No data	available	
		: No data	available	
	ng point/boiling range n point	: 12 °C	to the solven to the solven	
Evap	oration rate	: No data	available	
Uppe	er explosion limit	: 12.7 %((related	V) to the solven	t(s))
Lowe	er explosion limit	: 2 %(V) (related	to the solven	t(s))
Vapo	our pressure	: 43 hPa	(20 °C)	
Relat	tive vapour density	: No data	available	
Relat	tive density	: No data	available	
Dens	sity	: No data	available	
Bulk	density	: Not app	licable	
	bility(ies) /ater solubility	: No data	available	
	tion coefficient: n- nol/water	: No data	available	
Auto	-ignition temperature	: No data	available	
Decc	omposition temperature	: No dece	omposition if u	used as directed.
Visco Vi	osity iscosity, dynamic	: No data	available	

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reac- tions	:	No data available
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	No data available
Hazardous decomposition	:	No data available





Version 2.1	Revision Date: 03/13/2017		DS Number: 00000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
produ	ucts			
SECTION	11. TOXICOLOGICA	L INF	ORMATION	
Not c	e toxicity classified based on ava ponents:	ailable	information.	
Isopr	ropyl alcohol:			
Acute	e oral toxicity	:	LD0 (Humans)	: = 3,570 mg/kg
			LD50 (Rat): = 5 Method: OECD	5,840 mg/kg 9 Test Guideline 401
Acute	e inhalation toxicity	:	LC50 (Rat): = 4 Exposure time: Test atmosphe	4 h
			LC50 (Rat): 10 Exposure time: Method: OECD	
Acute	e dermal toxicity	:	LD50 (Rabbit):	= 12,800 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:

Isopropyl alcohol:

Species: Rabbit Result: Mild skin irritation Remarks: Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Isopropyl alcohol:

Species: Rabbit Result: Irritation to eyes, reversing after 7 to 21 days Assessment: Irritating to eyes. Method: OECD Test Guideline 405

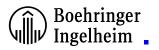
Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.



Frontline® pump spray

	Revision Date: 03/13/2017	SDS Number: 000000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
<u>Com</u>	oonents:		
Isopr	opyl alcohol:		
Speci	es: Guinea pig	tisation on laboratory a	animals.
	a cell mutagenicity lassified based on ava	ilable information.	
<u>Com</u>	oonents:		
Isopr	opyl alcohol:		
Geno	toxicity in vitro	: Test Type: Ame Result: negativ	
Geno	toxicity in vivo	: Test Type: Mic Result: negativ	
	nogenicity lassified based on ava	ilable information.	
Com	oonents:		
00111	Jonenta.		
Isopr	opyl alcohol:	cinogenic effects in an	imal experiments.
Isopr	opyl alcohol: arks: Did not show care	No component of	this product present at levels greater than c lentified as probable, possible or confirmed
Isopr Rema	opyl alcohol: arks: Did not show card	No component of equal to 0.1% is ic human carcinoger No component of	this product present at levels greater than c lentified as probable, possible or confirmed
Isopr Rema IARC	opyl alcohol: arks: Did not show card	No component of equal to 0.1% is id human carcinoger No component of equal to 0.1% is id gen by OSHA. No component of	this product present at levels greater than o lentified as probable, possible or confirmed by IARC. this product present at levels greater than o lentified as a carcinogen or potential carcin this product present at levels greater than o
Isopr Rema IARC OSH	opyl alcohol: arks: Did not show card	No component of equal to 0.1% is id human carcinoger No component of equal to 0.1% is id gen by OSHA. No component of equal to 0.1% is id by NTP.	this product present at levels greater than o lentified as probable, possible or confirmed by IARC. this product present at levels greater than o lentified as a carcinogen or potential carcin this product present at levels greater than o
Isopr Rema IARC OSH NTP Repro	opyl alcohol: arks: Did not show card	No component of equal to 0.1% is id human carcinoger No component of equal to 0.1% is id gen by OSHA. No component of equal to 0.1% is id by NTP.	this product present at levels greater than of lentified as probable, possible or confirmed on by IARC. this product present at levels greater than o
Isopr Rema IARC OSH NTP Repro Not cl <u>Comp</u>	opyl alcohol: arks: Did not show card A A oductive toxicity lassified based on ava	No component of equal to 0.1% is id human carcinoger No component of equal to 0.1% is id gen by OSHA. No component of equal to 0.1% is id by NTP.	this product present at levels greater than o lentified as probable, possible or confirmed by IARC. this product present at levels greater than o lentified as a carcinogen or potential carcin this product present at levels greater than o
Isopr Rema IARC OSH NTP Repro Not cl <u>Comp</u> Isopr	opyl alcohol: arks: Did not show card A A oductive toxicity lassified based on ava	No component of equal to 0.1% is in human carcinoger No component of equal to 0.1% is in gen by OSHA. No component of equal to 0.1% is in by NTP.	this product present at levels greater than of lentified as probable, possible or confirmed in by IARC. this product present at levels greater than of lentified as a carcinogen or potential carcin this product present at levels greater than of lentified as a known or anticipated carcinog

May cause drowsiness or dizziness.



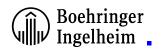
Frontline® pump spray

rsion	Revision Date: 03/13/2017	SDS Number: 000000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
<u>Comp</u>	oonents:		
Isopr	opyl alcohol:		
Asses	ssment: May cause drow	siness or dizzin	ess.
STOT	- repeated exposure		
	assified based on availa	ble information.	
<u>Comp</u>	oonents:		
Isopr	opyl alcohol:		
	ssment: The substance c posure.	or mixture is not	classified as specific target organ toxicant, repeat
-	ation toxicity		
	assified based on availa	ble information.	
<u>Comp</u>	oonents:		
-	opyl alcohol:		
	ata available		
	12. ECOLOGICAL INFO	ORMATION	
CTION Ecoto	oxicity	DRMATION	
CTION Ecoto <u>Com</u>	oxicity oonents:	DRMATION	
CTION Ecoto <u>Comp</u> Isopre	oxicity <u>oonents:</u> opyl alcohol:		$r_{\rm r} = 0.640$ mg/
CTION Ecoto <u>Comp</u> Isopre	oxicity oonents:		ephales promelas (fathead minnow)): = 9,640 mg/ me: 48 h
CTION Ecoto <u>Comp</u> Isopre	oxicity <u>oonents:</u> opyl alcohol:	: LC50 (Pime Exposure ti	me: 48 h omis macrochirus (Bluegill sunfish)): = 1,400 mg/l
CTION Ecoto Comp Isopro Toxici	oxicity <u>oonents:</u> opyl alcohol:	: LC50 (Pime Exposure ti LC50 (Lepo Exposure ti	me: 48 h omis macrochirus (Bluegill sunfish)): = 1,400 mg/l me: 96 h hnia (water flea)): = 13,299 mg/l
CTION Ecoto Comp Isopr Toxici aquat	oxicity <u>oonents:</u> opyl alcohol: ity to fish ity to daphnia and other	 LC50 (Pime Exposure ti LC50 (Lepo Exposure ti EC50 (Dap Exposure ti 	me: 48 h omis macrochirus (Bluegill sunfish)): = 1,400 mg/l me: 96 h hnia (water flea)): = 13,299 mg/l me: 48 h me): > 1,000 mg/l
CTION Ecoto Comp Isopre Toxici aquat Toxici	oxicity conents: opyl alcohol: ity to fish ity to daphnia and other ic invertebrates	 LC50 (Pime Exposure ti LC50 (Lepo Exposure ti EC50 (Dap Exposure ti EC50 (Alga Exposure ti 	me: 48 h omis macrochirus (Bluegill sunfish)): = 1,400 mg/l me: 96 h hnia (water flea)): = 13,299 mg/l me: 48 h me): > 1,000 mg/l
CTION Ecoto Comp Isopre Toxici aquat Toxici icity) Toxici	oxicity ponents: opyl alcohol: ity to fish ity to daphnia and other ic invertebrates ity to algae ity to fish (Chronic tox- ity to daphnia and other ic invertebrates (Chron-	 : LC50 (Pime Exposure ti LC50 (Lepo Exposure ti : EC50 (Dap Exposure ti : EC50 (Alga Exposure ti : Remarks: N 	me: 48 h omis macrochirus (Bluegill sunfish)): = 1,400 mg/l me: 96 h hnia (water flea)): = 13,299 mg/l me: 48 h me): > 1,000 mg/l me: 72 h
CTION Ecoto Comp Isopre Toxici aquat Toxici icity) Toxici aquat ic toxi	oxicity ponents: opyl alcohol: ity to fish ity to daphnia and other ic invertebrates ity to algae ity to fish (Chronic tox- ity to daphnia and other ic invertebrates (Chron-	 : LC50 (Pime Exposure ti LC50 (Lepo Exposure ti : EC50 (Dap Exposure ti : EC50 (Alga Exposure ti : Remarks: N : Remarks: N 	me: 48 h omis macrochirus (Bluegill sunfish)): = 1,400 mg/l me: 96 h hnia (water flea)): = 13,299 mg/l me: 48 h le): > 1,000 mg/l me: 72 h No data available No data available tobacterium phosphoreum): = 22,000 mg/l



Frontline® pump spray

sion	Revision Date: 03/13/2017	-	0S Number: 0000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
Porci	stence and degradabi	11417		
	onents:	iity		
-	opyl alcohol: gradability	:	Result: Readily b Biodegradation: Exposure time: 2 Method: OECD 3	95 % 21 d
Chem (COD	iical Oxygen Demand)	:	2,320 mg/g	
BOD/	COD	:	BOD/COD: 62 %	
ThOD)	:	2,400 mg/g	
Bioad	cumulative potential			
<u>Comp</u>	oonents:			
-	opyl alcohol: cumulation	:	Remarks: No bic P(o/w)<1).	accumulation is to be expected (log
	on coefficient: n- ol/water	:	log Pow: 0.05 Method: OECD	Test Guideline 107
Mobil	lity in soil			
<u>Comp</u>	oonents:			
Distrik	opyl alcohol: oution among environ- al compartments	:	Remarks: No da	ta available
Other	adverse effects			
Produ	uct:			
-	e-Depletion Potential	:	tection of Stratos Substances Remarks: This p tured with a Clas	FR Protection of Environment; Part 82 Prospheric Ozone - CAA Section 602 Class I roduct neither contains, nor was manufacter I or Class II ODS as defined by the U.S. ction 602 (40 CFR 82, Subpt. A, App.A + I
<u>Comp</u>	oonents:			
-	opyl alcohol: onal ecological infor- n	:	No data available	e



Frontline® pump spray

Version 2.1	Revision Date: 03/13/2017	SDS Number: 000000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
SECTION	13. DISPOSAL CON	SIDERATIONS	
Dispo	osal methods		
Waste	e from residues	Must not be d	accordance with local regulations. isposed off together with household garbage. Do luct to reach sewage system.
Conta	aminated packaging	same manner	nnot be cleaned should be disposed of in the as the contents. red packaging can be recycled.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR UN/ID No. Proper shipping name Class Packing group Labels Packing instruction (cargo aircraft) Packing instruction (papage	: : : :	UN 1993 Flammable liquid, n.o.s. (Isopropanol) 3 II Flammable Liquids 364
Packing instruction (passen- ger aircraft)	:	353
IMDG-Code		
UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Isopropanol)
Class	:	3
Packing group	:	11
Labels	:	3
EmS Code	:	F-E, <u>S-E</u>
Marine pollutant	:	no

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 1993	
Proper shipping name	: Flammable liquids, n.o.	s.
	(Isopropanol)	
Class	: 3	
Packing group	: 11	
Labels	: FLAMMABLE LIQUID	
ERG Code	: 128	
Marine pollutant	: no	



Frontline[®] pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	00000049035	Date of first issue: 02/17/2017

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

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

SARA 311/312 Hazards	:	Fire Hazard Acute Health Hazard		
SARA 313	:	The following components tablished by SARA Title III,		ng levels es-
		Isopropyl alcohol	propan-2-ol	70 - 90 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Isopropyl alcohol propan-2-ol 73 %

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Kn Isopropyl alcohol	now	propan-2-ol
Pennsylvania Right To Kno Isopropyl alcohol	W	propan-2-ol
The components of this pro REACH	oduct are reported in the follo : Not in compliance with th	•
DSL	: This product contains the on the Canadian DSL no	e following components that are not r NDSL.
	Fipronil	



Frontline® pump spray

Version 2.1	Revision Date: 03/13/2017		DS Number: 00000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
AICS		:	Not in compliance	e with the inventory
NZIoC		:	On the inventory,	or in compliance with the inventory
ENCS		:	Not in compliance	e with the inventory
ISHL		:	Not in compliance	e with the inventory
KECI		:	On the inventory,	or in compliance with the inventory
PICCS	3	:	Not in compliance	e with the inventory
IECSC	;	:	Not in compliance	e with the inventory
TCSI		:	Not in compliance	e with the inventory
TSCA		:	Not On TSCA Inv	entory

TSCA list

No substances are subject to a Significant New Use Rule.

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

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

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 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 Develop-

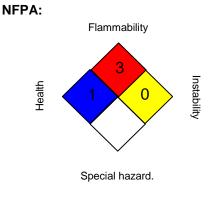


Frontline® pump spray

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ment; 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

Further information



HMIS® IV:

HEALTH	/	1
FLAMMABILITY		3
PHYSICAL HAZARD		0

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.

Vertical lines in the left hand margin indicate an amendment from the previous version.

Sources of key data used to	:	The specifications are based on own tests and/or literature
compile the Safety Data Sheet		data.
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Revision Date : 03/13/2017

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