according to GB/T 16483 and GB/T 17519



## **Permethrin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 2024/04/06
4.0	2024/09/28	829655-00019	Date of first issue: 2016/08/02

### **1. PRODUCT AND COMPANY IDENTIFICATION**

Product name	:	Permethrin Formulation				
Manufacturer or supplier's de Company	etai :	i <b>ls</b> MSD				
Address	:	No. 485 Jing Tai Road Pu Tuo District - Shanghai - China 200331				
Telephone	:	+1-908-740-4000				
Emergency telephone number	:	86-571-87268110				
E-mail address	:	EHSDATASTEWARD@msd.com				
Recommended use of the chemical and restrictions on use						
Recommended use Restrictions on use	:	Veterinary product Not applicable				

### 2. HAZARDS IDENTIFICATION

### **Emergency Overview**

Appearance Colour Odour	:	liquid clear aromatic	
Flammable liquid and vapour. May be harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.			
GHS Classification			
Flammable liquids	:	Category 3	
Acute toxicity (Oral)	:	Category 5	
Skin corrosion/irritation	:	Category 2	
Serious eye damage/eye irri- tation	:	Category 2A	
Skin sensitisation	:	Category 1	
Germ cell mutagenicity	:	Category 1B	

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Card	cinogenicity	:	Category 1B	
Rep	roductive toxicity	:	Category 2	
•	cific target organ toxicity - le exposure	:	Category 3	
•	cific target organ toxicity - eated exposure	:	Category 2	
Asp	iration hazard	:	Category 1	
Sho haza	rt-term (acute) aquatic ard	:	Category 1	
Long	g-term (chronic) aquatic ard	:	Category 1	
GHS	S label elements			
Haz	ard pictograms	:		
Sigr	nal word	:	Danger	• • •
Haz	ard statements	:	H303 May be ha H304 May be fat H315 Causes sk H317 May cause H319 Causes se H336 May cause H340 May cause H350 May cause H361 Suspected H373 May cause peated exposure	an allergic skin reaction. rious eye irritation. drowsiness or dizziness. genetic defects. cancer. of damaging fertility or the unborn child. damage to organs through prolonged or re-
Prec	cautionary statements	:	P202 Do not han and understood. P210 Keep away No smoking. P233 Keep conta	cial instructions before use. dle until all safety precautions have been rea from heat/ sparks/ open flames/ hot surfaces iner tightly closed. ion-proof electrical/ ventilating/ lighting equip-

according to GB/T 16483 and GB/T 17519



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		P243 Take pred P260 Do not br P264 Wash skin P271 Use only P272 Contamin the workplace. P273 Avoid rele P280 Wear prot tion/ face protec	non-sparking tools. cautionary measures against static discharge. eathe mist or vapours. In thoroughly after handling. outdoors or in a well-ventilated area. ated work clothing should not be allowed out of ease to the environment. tective gloves/ protective clothing/ eye protec- ction.
		CENTER/ docto P303 + P361 + Iy all contamina P304 + P340 + and keep comfo doctor if you fee P305 + P351 + for several minu easy to do. Cor P312 Call a PO P331 Do NOT i P333 + P313 If vice/ attention. P337 + P313 If tention.	<ul> <li>P353 IF ON SKIN (or hair): Take off immediate- ted clothing. Rinse skin with water/ shower.</li> <li>P312 IF INHALED: Remove person to fresh air ortable for breathing. Call a POISON CENTER/ el unwell.</li> <li>P338 IF IN EYES: Rinse cautiously with water utes. Remove contact lenses, if present and ntinue rinsing.</li> <li>ISON CENTER/ doctor if you feel unwell.</li> <li>nduce vomiting.</li> <li>skin irritation or rash occurs: Get medical ad- eye irritation persists: Get medical advice/ at- ake off contaminated clothing and wash it before</li> </ul>
		<b>Storage:</b> P403 + P235 S P405 Store lock	tore in a well-ventilated place. Keep cool. ked up.
		<b>Disposal:</b> P501 Dispose c disposal plant.	of contents/ container to an approved waste

#### Physical and chemical hazards

Flammable liquid and vapour.

#### Health hazards

May be harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

### Environmental hazards

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

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#### Other hazards which do not result in classification

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours). Vapours may form explosive mixture with air.

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)
Solvent naphtha (petroleum), light aromatic	64742-95-6	60 -70
Xylene	1330-20-7	6 -16
Permethrin (ISO)	52645-53-1	11.76
4-Nonylphenol, branched, ethoxylated	127087-87-0	8.4
Calcium bis(dodecylbenzenesulphonate),	70528-83-5	2.52
branched		

#### 4. FIRST AID MEASURES

General advice	:	In the case of accident or if you feel unwell, seek medical ad- vice immediately.
		When symptoms persist or in all cases of doubt seek medical advice.
If inhaled	:	If inhaled, remove to fresh air. Get medical attention.
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.
In case of eye contact	:	Thoroughly clean shoes before reuse. 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. If vomiting occurs have person lean forward. Call a physician or poison control centre immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	May be harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child.





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	ction of first-aiders s to physician	:	exposure. This product co Pyrethroid poise or organophosp First Aid respor and use the rec when the poten	hage to organs through prolonged or repeated ntains a pyrethroid. During should not be confused with carbamate hate poisoning. Iders should pay attention to self-protection, ommended personal protective equipment tial for exposure exists (see section 8). atically and supportively.
5. FIREFIG	GHTING MEASURES			
Suital	ble extinguishing media	:	Water spray Alcohol-resistar Carbon dioxide Dry chemical	
Unsu media	itable extinguishing a	:	High volume wa	ater jet
Speci fightir	fic hazards during fire- ng	:	fire. Flash back pos Vapours may fo	lid water stream as it may scatter and spread sible over considerable distance. Irm explosive mixtures with air. mbustion products may be a hazard to health.
Haza ucts	rdous combustion prod-	:	Chlorine compo Carbon oxides Sulphur oxides Metal oxides	unds
Speci ods	fic extinguishing meth-	:	cumstances an Use water spra	ng measures that are appropriate to local cir- d the surrounding environment. y to cool unopened containers. haged containers from fire area if it is safe to do
	al protective equipment efighters	:		ire, wear self-contained breathing apparatus. rotective equipment.

Personal precautions, protec- : tive equipment and emer- gency procedures	:	Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice (see section 7) and personal pro- tective equipment recommendations (see section 8).
Environmental precautions :	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil

according to GB/T 16483 and GB/T 17519



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			Local	and dispos	se of contaminated wash water. should be advised if significant spillages led.
		ls and materials for ment and cleaning up	Soak i Suppro Spray J For lar ment t be pur Clean bent. Local o emplo mine v Sectio	up with iner ess (knock et. ge spills, pi o keep mat nped, store up remainin of this mate yed in the c vhich regula ns 13 and 2	s should be used. t absorbent material. down) gases/vapours/mists with a water rovide dyking or other appropriate contain- erial from spreading. If dyked material can recovered material in appropriate container. ng materials from spill with suitable absor- regulations may apply to releases and dis- rial, as well as those materials and items deanup of releases. You will need to deter- ations are applicable. 15 of this SDS provide information regarding tional requirements.

### 7. HANDLING AND STORAGE

Handling		
Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	If sufficient ventilation is unavailable, use with local exhaust ventilation.
		Use explosion-proof electrical, ventilating and lighting equip- ment.
Advice on safe handling	:	Do not get on skin or clothing.
		Do not breathe mist or vapours. Do not swallow
		Do not get in eyes.
		Wash skin thoroughly after handling.
		Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
		Non-sparking tools should be used.
		Keep container tightly closed.
		Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment
Avoidance of contact		Oxidizing agents
_	•	
Storage		
Conditions for safe storage	:	Keep in properly labelled containers.

according to GB/T 16483 and GB/T 17519



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Mate	erials to avoid	Store in accord Keep away fro Do not store w Self-reactive su Organic peroxi Oxidizing agen Flammable gas Pyrophoric liqu Pyrophoric soli	bsed. , well-ventilated place. dance with the particular national regulations. m heat and sources of ignition. ith the following product types: ubstances and mixtures ides its ses uids jds ubstances and mixtures
Pack	aging material	: Unsuitable mat	terial: None known.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Solvent naphtha (petroleum), light aromatic	64742-95-6	TWA	200 mg/m3 (total hydrocarbon vapor)	ACGIH
Xylene	1330-20-7	PC-TWA	50 mg/m3	CN OEL
		PC-STEL	100 mg/m3	CN OEL
		TWA	20 ppm	ACGIH
Permethrin (ISO)	52645-53-1	TWA	80 µg/m3 (OEB 3)	Internal
		Wipe limit	800 µg/100 cm <sup>2</sup>	Internal

### **Biological occupational exposure limits**

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentra- tion	Basis
Xylene	1330-20-7	methylhip- puric acids	Urine	End of shift	0.3 g/g cre- atinine	CN BEI
		methylhip- puric acids	Urine	End of shift	0.4 g/l	CN BEI
		Methylhip- puric acids	Urine	End of shift (As soon as possible after exposure	0.3 g/g cre- atinine	ACGIH BEI
				ceases)		

Engineering measures

: Minimize workplace exposure concentrations.

according to GB/T 16483 and GB/T 17519



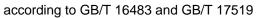
ersion .0	Revision Date: 2024/09/28	SDS Number: 829655-00019	Date of last issue: 2024/04/06 Date of first issue: 2016/08/02				
		ventilation.	ntilation is unavailable, use with local exhaust -proof electrical, ventilating and lighting equip-				
Perso	nal protective equip	ment					
	ratory protection	: If adequate loo sure assessme	cal exhaust ventilation is not available or expo- ent demonstrates exposures outside the rec- idelines, use respiratory protection.				
	er type ice protection	: Combined par	<ul><li>Combined particulates and organic vapour type</li><li>Wear the following personal protective equipment:</li></ul>				
Skin and body protection		: Select appropries resistance dat potential. Wear the follow If assessment atmospheres of protective cloth Skin contact m	riate protective clothing based on chemical a and an assessment of the local exposure wing personal protective equipment: demonstrates that there is a risk of explosive or flash fires, use flame retardant antistatic				
Hand	protection	olouming (glove					
Ма	terial	: Chemical-resis	stant gloves				
	marks ne measures	on the concen stance and sp determined for applications, w chemicals of th glove manufac which may imp hands before h : If exposure to eye flushing sy ing place. When using do	s to protect hands against chemicals dependin tration and quantity of the hazardous sub- ecific to place of work. Breakthrough time is no r the product. Change gloves often! For specia we recommend clarifying the resistance to the aforementioned protective gloves with the cturer. Take note that the product is flammable bact the selection of hand protection. Wash breaks and at the end of workday. chemical is likely during typical use, provide ystems and safety showers close to the work- to not eat, drink or smoke. work clothing should not be allowed out of the				

iquid
clear
aromatic
No data available

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рН		:	6.69	
Melti	ng point/freezing point	:	No data available	9
Initial range	l boiling point and boiling e	:	No data available	9
Flash	n point	:	51.1 °C	
Evap	oration rate	:	No data available	9
Flam	mability (solid, gas)	:	Not applicable	
Flam	mability (liquids)	:	No data available	9
	er explosion limit / Upper nability limit	:	No data available	9
	er explosion limit / Lower nability limit	:	No data available	9
Vapo	our pressure	:	15 mmHg (25 °C	)
Relat	tive vapour density	:	No data available	9
Relat	tive density	:	0.870 - 0.880 (25	5 °C)
Dens	ity	:	No data available	9
	bility(ies) /ater solubility	:	emulsifiable	
	tion coefficient: n-	:	Not applicable	
	nol/water -ignition temperature	:	No data available	9
Deco	mposition temperature	:	No data available	9
Visco Vi	osity iscosity, dynamic	:	No data available	9
Vi	scosity, kinematic	:	No data available	9
Explo	osive properties	:	Not explosive	
Oxidi	zing properties	:	The substance o	r mixture is not classified as oxidizing.
Mole	cular weight	:	No data available	9



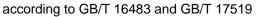


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	icle characteristics icle size	:	Not applicable		
10. STAE		(			
Che	ctivity mical stability sibility of hazardous reac- s	:	Stable under nor Flammable liquic Vapours may for		
Inco	ditions to avoid mpatible materials ardous decomposition ucts	:	<ul> <li>Heat, flames and sparks.</li> <li>Oxidizing agents</li> <li>No hazardous decomposition products are known.</li> </ul>		
11. TOXI		ΓΙΟΙ	4		
Expo	osure routes	:	Inhalation Skin contact Ingestion Eye contact		
Acu	te toxicity				
May	be harmful if swallowed.				
	<u>duct:</u>				
Acut	e oral toxicity	:	Acute toxicity esti Method: Calculati	mate: 3,022 mg/kg on method	
Acut	e inhalation toxicity	: Acute toxicity estimate: > 40 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method		h vapour	
Acut	e dermal toxicity	:	Acute toxicity esti Method: Calculati	mate: > 5,000 mg/kg on method	
Com	ponents:				
Solv	vent naphtha (petroleum	<b>), li</b>	ght aromatic:		
Acut	e oral toxicity	:	LD50 (Rat): > 5,0	00 mg/kg	
Acut	e inhalation toxicity	:	: LC50 (Rat): > 5.61 mg/l Exposure time: 4 h Test atmosphere: vapour		
Acut	e dermal toxicity	:	LD50 (Rabbit): > :	2,000 mg/kg	

according to GB/T 16483 and GB/T 17519



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Xyleı	ne:			
Acute	e oral toxicity	:	LD50 (Rat): 3, Method: Direct	523 mg/kg tive 67/548/EEC, Annex V, B.1.
Acute	e inhalation toxicity	:	LC50 (Rat): 27 Exposure time Test atmosphe	:4 h
Acute	e dermal toxicity	:	LD50 (Rabbit):	: > 4,200 mg/kg
Perm	nethrin (ISO):			
	e oral toxicity	:	LD50 (Rat): 48	30 - 554 mg/kg
Acute	e inhalation toxicity	:	LC50 (Rat): 2.3 Exposure time Test atmosphe	: 4 h
Acute	e dermal toxicity	:	LD50 (Rabbit):	: > 2,000 mg/kg
4-No	nylphenol, branched	l, etho	xylated:	
Acute	e oral toxicity	:	LD50 (Rat): > 2	2,000 mg/kg
Calci	ium bis(dodecylbenz	enesu	Ilphonate), brai	nched:
Acute	e oral toxicity	:		)4 - 1,980 mg/kg ed on data from similar materials
Acute	e dermal toxicity	:	LD50 (Rat): > 2 Remarks: Base	2,000 mg/kg ed on data from similar materials
-	corrosion/irritation			
	ponents:			
Solve	ent naphtha (petrole	um), li	ght aromatic:	
Spec		:	Rabbit	
Meth Resu		:	OECD Test Gu Skin irritation	uideline 404
Xylei				
Spec Resu		:	Rabbit Skin irritation	
Perm	nethrin (ISO):			
Spec Resu		:	Rabbit No skin irritatio	on





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#### 4-Nonylphenol, branched, ethoxylated:

Species Method Result Remarks	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation
Remarks	: Based on data from similar materials

#### Calcium bis(dodecylbenzenesulphonate), branched:

Species Method Result Remarks	: Rabbit
Method	: OECD Test Guideline 404
Result	: Skin irritation
Remarks	: Based on data from similar materials

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### **Components:**

#### Solvent naphtha (petroleum), light aromatic:

Species Result Method	: Rabbit
Result	: No eye irritation
Method	: OECD Test Guideline 405

### Xylene:

Species Result		Rabbit Irritation to eyes, reversing within 21 days
-------------------	--	--

### Permethrin (ISO):

Species Result	:	Rabbit
Result	:	No eye irritation

#### 4-Nonylphenol, branched, ethoxylated:

Species	: Rabbit
Result	: No eye irritation
Method	: OECD Test Guideline 405
Remarks	: Based on data from similar materials
Species Result Method Remarks	: OECD Test Guideline 405

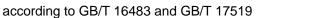
#### Calcium bis(dodecylbenzenesulphonate), branched:

Species	: Rat
Result	: Irreversible effects on the eye
Method	: OECD Test Guideline 405
Species Result Method Remarks	: Based on data from similar materials

#### Respiratory or skin sensitisation

#### Skin sensitisation

May cause an allergic skin reaction.





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#### **Respiratory sensitisation**

Not classified based on available information.

#### **Components:**

### Solvent naphtha (petroleum), light aromatic:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species Result	:	Guinea pig
Result	:	negative

### Xylene:

Test Type Exposure routes Species Result	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Result	:	negative

#### Permethrin (ISO):

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Test Type Exposure routes Species Result	:	positive
		-

#### Assessment

: Probability or evidence of skin sensitisation in humans

#### 4-Nonylphenol, branched, ethoxylated:

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Result	: negative
Test Type Exposure routes Species Result Remarks	: Based on data from similar materials

#### Calcium bis(dodecylbenzenesulphonate), branched:

Test Type Exposure routes Species Result Remarks	:	Maximisation Test Skin contact Guinea pig negative
Result	:	negative
Remarks	:	Based on data from similar materials

#### Germ cell mutagenicity

May cause genetic defects.

#### **Components:**

### Solvent naphtha (petroleum), light aromatic:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
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ersion .0	Revision Date: 2024/09/28	SDS Number: 829655-00019	Date of last issue: 2024/04/06 Date of first issue: 2016/08/02
		Test Type: Ir Result: posit	n vitro mammalian cell gene mutation test ive
Geno	toxicity in vivo	gonia Species: Mo	Route: Intraperitoneal injection
	cell mutagenicity - ssment	: Positive resu tests in mar	ult(s) from in vivo heritable germ cell mutagenicity nmals
Xylen	e:		
	toxicity in vitro	: Test Type: B Result: nega	Bacterial reverse mutation assay (AMES) ative
		Test Type: C Result: nega	Chromosome aberration test in vitro
		Test Type: Ir Result: nega	n vitro mammalian cell gene mutation test ative
		Test Type: Ir malian cells Result: nega	n vitro sister chromatid exchange assay in mam- itive
Geno	toxicity in vivo	Species: Mo	Route: Skin contact
Perm	ethrin (ISO):		
	toxicity in vitro	: Test Type: B Result: nega	Bacterial reverse mutation assay (AMES) ative
		Test Type: Ir Result: nega	n vitro mammalian cell gene mutation test ative
		Test Type: C Result: nega	Chromosome aberration test in vitro
			DNA damage and repair, unscheduled DNA syn- mmalian cells (in vitro) ative
		Test Type: C Result: posit	Chromosome aberration test in vitro
Geno	toxicity in vivo	: Test Type: M cytogenetic a	/lammalian erythrocyte micronucleus test (in vivo assay)

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/ersion .0	Revision Date: 2024/09/28	SDS Number: 829655-00019	Date of last issue: 2024/04/06 Date of first issue: 2016/08/02
		Species: Mous Result: negativ	
		Test Type: Ro Species: Mous Result: negativ	
		cytogenetic as Species: Rat Application Ro	oute: Intraperitoneal injection
			Itagenicity (in vivo mammalian bone-marrow st, chromosomal analysis) se bute: Ingestion
	n cell mutagenicity - ssment	: Weight of evid cell mutagen.	lence does not support classification as a germ
4-Nor	nylphenol, branched	, ethoxylated:	
Geno	otoxicity in vitro		cterial reverse mutation assay (AMES) D Test Guideline 471 ve
		Remarks: Bas	ed on data from similar materials
			romosome aberration test in vitro D Test Guideline 473 ve
		Remarks: Bas	ed on data from similar materials
			vitro mammalian cell gene mutation test D Test Guideline 476 ve
			ed on data from similar materials
Calci	um bis(dodecylbenz	enesulphonate), bra	nched:
Geno	otoxicity in vitro	Method: OECI Result: negativ	
		Remarks: Bas	ed on data from similar materials
		Tast Turner Ch	romosome aberration test in vitro

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ersion .0	Revision Date: 2024/09/28	SDS Number: 829655-00019	Date of last issue: 2024/04/06 Date of first issue: 2016/08/02			
		Result: negati	D Test Guideline 473 ve sed on data from similar materials			
Genotoxicity in vivo		cytogenetic as Species: Mou Application Ro Result: negati	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Result: negative Remarks: Based on data from similar materials			
	nogenicity cause cancer.					
<u>Com</u>	oonents:					
Solve	ent naphtha (petrole	um), light aromatic:				
	cation Route sure time	: Mouse : Skin contact : 2 Years : positive				
Carcii ment	nogenicity - Assess-	·	lence of carcinogenicity in animal experiments			
Xylen						
Speci Applic	es cation Route	: Rat : Ingestion				
	sure time	: 103 weeks				
Resu		: negative				
Perm	ethrin (ISO):					
Speci	• •	: Rat				
Resu	lt	: negative				
Speci	es	: Mouse				
Resu		: negative				
Suspe		tility or the unborn chi	ild.			
	<u>ponents:</u>					
	ent naphtha (petrole ts on fertility		production/Developmental toxicity screening			
	on reruncy	test Species: Rat	pute: inhalation (vapour)			

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rsion )	Revision Date: 2024/09/28	SDS N 829655		Date of last issue: 2024/04/06 Date of first issue: 2016/08/02
Effects ment	s on foetal develop-	Spe App	cies: Rat	oryo-foetal development ute: inhalation (vapour) e
Xylen	e:			
	s on fertility	Spe App	cies: Rat	e-generation reproduction toxicity study ute: inhalation (vapour) e
Effects ment	s on foetal develop-	Spe App	cies: Rat	oryo-foetal development ute: inhalation (vapour) e
Perme	ethrin (ISO):			
	s on fertility	Spe App	cies: Rat	p-generation reproduction toxicity study ute: Ingestion e
Effects ment	s on foetal develop-	repi Spe App	roduction/de	nbined repeated dose toxicity study with the evelopmental toxicity screening test ute: Ingestion e
II 4-Non	ylphenol, branched,	ethoxvlat	ed:	
	ductive toxicity - As-	: Sor	ne evidence	e of adverse effects on sexual function and on development, based on animal experimen
Calciu	um bis(dodecylbenze	nesulpho	onate), bran	iched:
Effects	s on fertility	Spe App Res	ecies: Rat blication Rou sult: negative	ee-generation reproduction toxicity study ute: Ingestion e ed on data from similar materials
Effect: ment	s on foetal develop-	repi Spe App Met Res	roduction/de ecies: Rat blication Rou hod: OECD sult: negative	nbined repeated dose toxicity study with the evelopmental toxicity screening test ute: Ingestion Test Guideline 422 e ed on data from similar materials

Version

NOAEL

Application Route

Exposure time

according to GB/T 16483 and GB/T 17519



Date of last issue: 2024/04/06

## Permethrin Formulation

Revision Date:

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	T - single exposure		
May	cause drowsiness or	dizziness.	
<u>Com</u>	ponents:		
Solv	ent naphtha (petrole	um), light aromatio	:
Asse	ssment	: May cause	drowsiness or dizziness.
Xyle			
Asse	ssment	: May cause	respiratory irritation.
	T - repeated exposu cause damage to org		ed or repeated exposure.
<u>Com</u>	ponents:		
Xylei	ne:		
Expo	sure routes	: inhalation (v	
	et Organs	: Auditory sys	
Asse	ssment		roduce significant health effects in animals at con of >0.2 to 1 mg/l/6h/d.
Repe	eated dose toxicity		
<u>Com</u>	ponents:		
Solv	ent naphtha (petrole	um), light aromatio	:
Spec	ies	: Rat	
LOAI		: 500 mg/kg	
Appli	cation Route	: Ingestion	
<b>II</b> Expo	sure time	: 28 Days	
Xyle	ne:		
Spec	eies	: Rat	
LOAI		: > 0.2 - 1 mg	
	cation Route	: inhalation (	/apour)
Expo Rema	osure time arks	: 13 Weeks : Based on d	ata from similar materials
Spec	ies	: Rat	
LOAI		: 150 mg/kg	
	cation Route	: Ingestion	
Expo	sure time	: 90 Days	
	nethrin (ISO):		
Spec		: Rat	
		· 0.2201 ma/	

SDS Number:

:

:

0.2201 mg/l

Inhalation



according to GB/T 16483 and GB/T 17519

# Permethrin Formulation

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Species	:	Rat
NOAEL	:	175 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

#### 4-Nonylphenol, branched, ethoxylated:

Species LOAEL Application Route Exposure time Method Remarks	: Rat
LÕAEL	: 150 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days
Method	: OPPTS 870.3100
Remarks	: Based on data from similar materials

### Aspiration toxicity

May be fatal if swallowed and enters airways.

### Components:

#### Solvent naphtha (petroleum), light aromatic:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

### Xylene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

#### **12. ECOLOGICAL INFORMATION**

#### Ecotoxicity

#### **Components:**

#### Solvent naphtha (petroleum), light aromatic:

1 V		•
Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 8.2 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 4.5 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EL50 (Pseudokirchneriella subcapitata (microalgae)): 3.1 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201

according to GB/T 16483 and GB/T 17519



ersion )	Revision Date: 2024/09/28	-	9655-00019	Date of last issue: 2024/04/06 Date of first issue: 2016/08/02
	ty to daphnia and other c invertebrates (Chron- city)	:	mg/l Exposure time: 96 Test substance: V Method: OECD To NOELR (Daphnia Exposure time: 21	Vater Accommodated Fraction est Guideline 201 magna (Water flea)): 2.6 mg/l 1 d Vater Accommodated Fraction
II Xylene	e:			
Toxicit	y to fish	:	LC50 (Oncorhync Exposure time: 96	chus mykiss (rainbow trout)): 13.5 mg/l ວິ h
	ty to daphnia and other c invertebrates	:	Exposure time: 24 Method: OECD Te	
Toxicit plants	ty to algae/aquatic	:	EC50 (Skeletoner Exposure time: 72	ma costatum (marine diatom)): 10 mg/l 2 h
Toxicit icity)	y to fish (Chronic tox-	:	Exposure time: 35 Method: OECD To	
	ty to daphnia and other c invertebrates (Chron- city)	:	Exposure time: 21 Method: OECD To	
Toxicit	y to microorganisms	:	NOEC: > 100 mg/ Exposure time: 3 Method: OECD To Remarks: Based of	h
Perme	ethrin (ISO):			
Toxicit	ty to fish	:	LC50 (Lepomis m Exposure time: 96	nacrochirus (Bluegill sunfish)): 0.00079 mg/l 5 h
	ty to daphnia and other c invertebrates	:	EC50 (Daphnia m Exposure time: 48	nagna (Water flea)): 0.0001 mg/l 3 h
Toxicit plants	y to algae/aquatic	:	ErC50 (Pseudokir mg/l Exposure time: 72	rchneriella subcapitata (green algae)): > 1.1 2 h
			EC10 (Pseudokiro	chneriella subcapitata (green algae)): 0.002

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			mg/l Exposure time: 7	2 h
M-Fac icity)	ctor (Acute aquatic tox-	:	10,000	
	ity to fish (Chronic tox-	:	Exposure time: 3	rio (zebra fish)): 0.00041 mg/l 5 d Test Guideline 210
	ity to daphnia and other ic invertebrates (Chron- city)	:	Exposure time: 2	magna (Water flea)): 0.0047 μg/l 1 d <sup>-</sup> est Guideline 211
M-Fac toxicit	ctor (Chronic aquatic	:	10,000	
	ity to microorganisms	:	EC50: > 1,000 m Exposure time: 3	
4-Nor	ylphenol, branched, e	tho	xylated:	
Toxici	ity to fish	:	Exposure time: 9	es promelas (fathead minnow)): > 0.1 - 1 6 h on data from similar materials
	ity to daphnia and other ic invertebrates	:	Exposure time: 4	nnia dubia (water flea)): > 0.1 - 1 mg/l 8 h on data from similar materials
Toxici plants	ity to algae/aquatic	:	mg/l Exposure time: 7 Method: OECD 7	rum capricornutum (green algae)): > 1 - 1 2 h <sup>-</sup> est Guideline 201 on data from similar materials
			Exposure time: 7 Method: OECD	um capricornutum (green algae)): > 1 mg 2 h ēst Guideline 201 on data from similar materials
M-Fac icity)	ctor (Acute aquatic tox-	:	1	
	ity to fish (Chronic tox-	:	Exposure time: 1	atipes (Japanese medaka)): > 0.1 - 1 mg 00 d on data from similar materials
	ity to daphnia and other ic invertebrates (Chron- icity)	:	mg/l Exposure time: 2	sis bahia (opossum shrimp)): > 0.001 - 0. 8 d on data from similar materials
M-Fac toxicit	ctor (Chronic aquatic	:	10	

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Calci	um bis(dodecylbenzer	nesulphonate), bra	nched:
Toxic	ity to fish	: LC50 : > 1 - 1 Exposure time Remarks: Bas	
	ity to daphnia and other tic invertebrates	Exposure time	ia magna (Water flea)): 62 mg/l e: 48 h D Test Guideline 202
Toxic plants	ity to algae/aquatic s	100 mg/l Exposure time Method: OEC	lokirchneriella subcapitata (green algae)): > 10 - e: 72 h D Test Guideline 201 sed on data from similar materials
		mg/l Exposure time Method: OEC	lokirchneriella subcapitata (green algae)): > 1 e: 72 h D Test Guideline 201 eed on data from similar materials
Persi	istence and degradabil	ity	
Com	ponents:		
	ent naphtha (petroleun		
Biode	egradability	: Result: Inhere	ntly biodegradable.

	Biodegradation: 94 % Exposure time: 25 d
Xylene:	
Biodegradability	<ul> <li>Result: Readily biodegradable.</li> <li>Biodegradation: &gt; 70 %</li> <li>Exposure time: 28 d</li> <li>Method: OECD Test Guideline 301F</li> <li>Remarks: Based on data from similar materials</li> </ul>
Permethrin (ISO):	
Biodegradability	: Result: Not readily biodegradable. Method: OECD Test Guideline 301F

### 4-Nonylphenol, branched, ethoxylated:

Biodegradability	: Result: Not readily biodegradable. Remarks: Based on data from similar materials
	enzenesulphonate), branched:

Biodegradability		Result: Readily biodegradable. Remarks: Based on data from similar materials
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according to GB/T 16483 and GB/T 17519



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# 

Bioaccumulative potential		
Components:		
<b>Xylene:</b> Partition coefficient: n- octanol/water	:	log Pow: 3.16 Remarks: Calculation
Permethrin (ISO):		
Bioaccumulation	:	Species: Lepomis macrochirus (Bluegill sunfish) Bioconcentration factor (BCF): 570
Partition coefficient: n- octanol/water	:	log Pow: 4.67
Calcium bis(dodecylbenze	nesı	Ilphonate), branched:
Partition coefficient: n- octanol/water	:	Remarks: Not applicable
Mobility in soil		
No data available		
<b>Other adverse effects</b> No data available		
13. DISPOSAL CONSIDERATIO	NS	
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 han- dling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or ex-

### **14. TRANSPORT INFORMATION**

### International Regulations

UNRTDG	
UN number	: UN 1993
Proper shipping name	: FLAMMABLE LIQUID, N.O.S.
	(Solvent naphtha (petroleum), light aromatic, Xylene)
Class	: 3
Class Packing group Labels	: III
Labels	: 3

pose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

according to GB/T 16483 and GB/T 17519

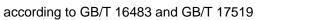


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/ersion 1.0	Revision Date: 2024/09/28	SDS Number: 829655-00019	Date of last issue: 2024/04/06 Date of first issue: 2016/08/02				
Enviro	onmentally hazardous	: no					
IATA-DGR UN/ID No. Proper shipping name Class		<ul> <li>: UN 1993</li> <li>: Flammable liquid, n.o.s. (Solvent naphtha (petroleum), light aromatic, Xylene)</li> <li>: 3</li> </ul>					
Packi Label Packi aircra	ng group s ng instruction (cargo	: III : Flammable Liquids n (cargo : 366					
ger ai <b>IMDG</b> UN ni	ircraft) G-Code umber er shipping name	: UN 1993 : FLAMMABLE	LIQUID, N.O.S. tha (petroleum), light aromatic, Xylene, Perme-				
Class Packing group Labels EmS Code Marine pollutant		thrin (ISO)) : 3 : III : 3 : F-E, <u>S-E</u> : yes	thrin (ISO)) 3 III 3 F-E, <u>S-E</u>				
	sport in bulk according		RPOL 73/78 and the IBC Code				
Natio	nal Regulations						
UN ni	<b>944/12268</b> umber er shipping name		LIQUID, N.O.S. htha (petroleum), light aromatic, Xylene)				
Packi Label	ng group	: 3 : III : 3 : no					
The tr based Sheet	d upon the properties of	provided herein ar the unpackaged ma cations may vary by	e for informational purposes only, and solely aterial as it is described within this Safety Data y mode of transportation, package sizes, and va				
5. REGU	LATORY INFORMATIC	N					
<b>N</b> <i>A</i>							
	nal regulatory informa on the Prevention and		ational Diseases				

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : Listed





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ז \ 	No. / C W5.4	cation of Major Hazard ode Chemical r Flammable lous Chemicals for Prio	amo liqu	e / Category uids			nemicals (GB 18218) Threshold quantity 5,000 t Listed
	-				s whe		Toxic Substances are Used
	Catalog	gue of Highly Toxic Ch	emi	cais		-	Not listed
		ation of Environmenta port of Toxic Chemic		anagement on the	e Firs	st Ir	mport of Chemicals and the Import
C		Severely Restricted To		Chemicals for Impo	ort	:	Not listed
	-	ation on the Administ gue and Classification					<b>Is</b> Not listed
·	Yangtz	e River Protection La	aw				
-	This pr	oduct does not contair	n ang	y dangerous chemi	icals	pro	hibited for inland river transport.
		mponents of this pro	oduc	-	the f	ollo	owing inventories:
	AICS		:	not determined			
[	DSL		:	not determined			
I	IECSC		:	not determined			
16. O	THER	INFORMATION					
F	Revisio	on Date	:	2024/09/28			
F	Furthe	r information					
C		s of key data used to e the Safety Data	:		arch I	resi	ata from raw material SDSs, OECD ults and European Chemicals Agen-
Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.							
[	Date fo	rmat	:	yyyy/mm/dd			
F	Full te	xt of other abbreviation	ons				
	ACGIH ACGIH		:	USA. ACGIH Thre ACGIH - Biologica			
(	CN BE	l	:	China. Biological	Occu	ipat	tional Exposure Indices
(	CN OE	L	:	Occupational exp workplace - Chen			nits for hazardous agents in the zardous agents.

according to GB/T 16483 and GB/T 17519



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ACGIH / TWA	:	8-hour, time-weighted average
CN OEL / PC-TWA	:	Permissible concentration - time weighted average
CN OEL / PC-STEL	:	Permissible concentration - short term exposure limit

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

### Disclaimer

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

CN / EN