



Versio 1.0		Revision Date: 12.02.2025		S Number: 01735	Date of last issue: - Date of first issue: 12.02.2025
SECT	ION 1.	PRODUCT AND COM	/IPA		ION
Ρ	Product name		:	BRIGADE GRAN	IULAR INSECTICIDE
R	Recomn	nended use of the cl	nemi	ical and restriction	ons on use
R	Recomm	nended use	:	Can be used as i	nsecticide only.
R	Restrictio	ons on use	:	Use as recomme	nded by the label.
N	lanufad	turer or supplier's d	letai	ls	
С	Compan	у	:	FMC Australasia	Pty Ltd
A	ddress		:	Building B, Suite North Ryde NSW Australia	G.01, 12 Julius Avenue / 2113
т	elephor	ne	:	1 800 066 355	
т	elefax		:	(02) 9923 6011	
E	-mail a	ddress	:	SDS-Info@fmc.c	om
E	merger	ncy telephone number	· :	For leak, fire, spil 1800 033 111 (l)	l or accident emergencies, call: com)
				Medical emerger 1 800 033 111 (T	icy: Transport and 24 h Medical information)

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

### **GHS Classification**

Not a hazardous substance or mixture.

#### **GHS** label elements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

### Other hazards which do not result in classification

Very toxic to aquatic life with long lasting effects.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture



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### Components

Chemical name	CAS-No.	Concentration (% w/w)
bifenthrin (ISO)	82657-04-3	< 1
Quartz (SiO2)	14808-60-7	>= 90 -<= 95

### SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Induce vomiting immediately and call a physician. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	May cause damage to organs if inhaled.
Notes to physician	:	Treat symptomatically.

### **SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media		Dry chemical Foam Carbon dioxide (CO2)
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire- fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion prod- ucts	:	Thermal decomposition can lead to release of irritating gases and vapours.



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Spec ods	ific extinguishing meth-	:	must not be diso Fire residues ar	nated fire extinguishing water separately. This charged into drains. Id contaminated fire extinguishing water must n accordance with local regulations.			
•	sial protective equipment refighters	:	Firefighters should wear protective clothing and self-contained breathing apparatus.				
Hazo	chem Code	:	2Z				
SECTION	I 6. ACCIDENTAL RELE	AS	EMEASURES				
tive e	onal precautions, protec- equipment and emer- y procedures	:	Use personal pr Avoid dust form Avoid breathing				
Envi	ronmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.				
	ods and materials for ainment and cleaning up	:	Keep in suitable	e, closed containers for disposal.			
SECTION	7. HANDLING AND ST	OR	AGE				
	Advice on protection against fire and explosion		Avoid dust formation. Provide appropriate exhaust ventilation at places whe is formed.				
Advie	Advice on safe handling		Avoid formation of respirable particles. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before us Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in plication area. Dispose of rinse water in accordance with local and r regulations.				
Hygi	Hygiene measures		When using do When using do Wash hands be				
Cond	Conditions for safe storage		place. Containers which kept upright to p Observe label p Electrical install	tightly closed in a dry and well-ventilated th are opened must be carefully resealed and prevent leakage. recautions. ations / working materials must comply with al safety standards.			



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Further information on storage stability

Further information on stor- : No decomposition if stored and applied as directed.

### 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		
Quartz (SiO2)	14808-60-7	TWA (Res- pirable dust)	0.05 mg/m3	AU OEL		
			ation: Category 1A (C	,		
			carcinogenic potent			
		TWA (Res-	0.025 mg/m3	ACGIH		
		pirable par-	(Silica)			
		ticulate mat- ter)				
Personal protective equipment						
Respiratory protection	quired. In case of dus	No personal respiratory protective equipment normally re- quired. In case of dust exposure wear suitable personal respiratory protection and protective suit.				
Hand protection						
Material		Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.				
Remarks		The suitability for a specific workplace should be discussed with the producers of the protective gloves.				
		wash bottle with pure water tly fitting safety goggles				
Skin and body protection	Choose body	Dust impervious protective suit Choose body protection according to the amount and con- centration of the dangerous substance at the work place.				

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	solid
Form	:	granules
Colour	:	light tan
Odour	:	musty



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	Odour Threshold		:	No data available	2
	рН		:	6.8 - 7.1	
	Melting point/freezing point		:	No data available	9
	Boiling point/boiling range		:	Not applicable	
	Flash p	oint	:	No data available	9
;	Self-igr	hition	:	No data available	9
		explosion limit / Upper bility limit	:	No data available	9
		explosion limit / Lower bility limit	:	No data available	)
,	Vapour	pressure	:	No data available	9
	Relative vapour density		:	No data available	9
	Density		:	1.39 lb/scf	
	Bulk de	ensity	:	50 - 53 lb/scf	
	Solubili Wat	ty(ies) er solubility	:	No data available	9
	Solu	ubility in other solvents	:	No data available	9
	Partitio octanol	n coefficient: n- /water	:	No data available	
	Auto-ig	nition temperature	:	No data available	9
	Decom	position temperature	:	No data available	9
	Viscosi Visc	ty cosity, dynamic	:	No data available	9
	Visc	osity, kinematic	:	No data available	9
	Explosi	ve properties	:	Not explosive	
	Oxidizing properties		:	Non-oxidizing	



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SEC	SECTION 10. STABILITY AND REACTIVITY						
	Reactiv	vity	:	No decompositio	n if stored and applied as directed.		
	Chemical stability		:	No decomposition if stored and applied as directed.			
	Possibility of hazardous reac- tions		:	No decomposition if stored and applied as directed. Dust may form explosive mixture in air.			
	Conditions to avoid		:	Heat, flames and	l sparks.		
	Incompatible materials		:	Strong oxidizing agents Strong acids and strong bases			
Hazardous decomposition products		:	Carbon oxides				

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Based on available data, the classification criteria are not met.

### **Product:**

:	LD50 (Rat): > 5,000 mg/kg
:	Acute toxicity estimate: > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
	Acute toxicity estimate: > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
:	LD50 (Rabbit): > 2,000 mg/kg
:	LD50 (Rat, male and female): 56.7 mg/kg Symptoms: Convulsions, Tremors, ataxia
	LD50 (Mouse, female): 42.5 mg/kg Method: OPPTS 870.1100
:	LC50 (Rat, female): 0.6 - 1.2 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: Tremors, Convulsions
	:





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			e: 4 h		
Acute	dermal toxicity	: LD50 (Rat, ma Remarks: no r	ale and female): > 2,000 mg/kg nortality		
Quart	tz (SiO2):				
Acute	oral toxicity	: LD50 (Rat): >	5,000 mg/kg		
Acute inhalation toxicity		Exposure time Test atmosphe Method: OEC Assessment: tion toxicity	Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 436 Assessment: The substance or mixture has no acute inhal		
Acute	dermal toxicity	toxicity	The substance or mixture has no acute derma		
		Remarks: Bas	ed on data from similar materials		
Skin	corrosion/irritation	Remarks: Bas	ed on data from similar materials		
Based	d on available data, th	Remarks: Bas e classification criteria			
-	d on available data, th <u>uct:</u>		a are not met.		
Based <u>Produ</u> Resul	d on available data, th <u>uct:</u> t	e classification criteria	a are not met.		
Based <u>Produ</u> Resul	d on available data, th <u>uct:</u> t <u>ponents:</u>	e classification criteria	a are not met.		
Based <u>Produ</u> Resul <u>Comp</u> bifent	d on available data, th <u>uct:</u> t <u>ponents:</u> thrin (ISO):	e classification criteria	a are not met.		
Based <u>Produ</u> Resul	d on available data, th <u>uct:</u> t <u>ponents:</u> thrin (ISO): es	e classification criteria : No skin irritatio	a are not met. on		
Based Produ Resul Comp bifent Speci Metho Resul	d on available data, th uct: t ponents: thrin (ISO): es od	e classification criteria : No skin irritatio : Rabbit	a are not met. on uideline 404		
Based Produ Resul Comp bifent Speci Metho	d on available data, th uct: t ponents: thrin (ISO): es od	e classification criteria : No skin irritatio : Rabbit : OECD Test G	a are not met. on uideline 404		
Based Produ Resul Comp bifent Speci Metho Resul GLP	d on available data, th <u>uct:</u> t bonents: thrin (ISO): es od t	e classification criteria : No skin irritatio : Rabbit : OECD Test G : slight or no sk	a are not met. on uideline 404		
Based Produ Resul Comp bifent Speci Metho Resul GLP	d on available data, th <u>uct:</u> t <u>ponents:</u> thrin (ISO): es od t t	e classification criteria : No skin irritatio : Rabbit : OECD Test G : slight or no sk	a are not met. on uideline 404		
Based Produ Resul Comp bifent Specia Metho Resul GLP	d on available data, th <u>uct:</u> t <u>ponents:</u> thrin (ISO): es od t t t <b>t</b>	e classification criteria : No skin irritatio : Rabbit : OECD Test G : slight or no sk : yes	a are not met. on uideline 404 in irritation.		
Based Produ Resul Comp bifent Speci Metho Resul GLP Quart Speci Metho Resul	d on available data, th <u>uct:</u> t <b>ponents:</b> <b>thrin (ISO):</b> es od t <b>t</b> <b>t</b> <b>t</b> <b>t</b> <b>t</b> <b>t</b> <b>t</b>	e classification criteria : No skin irritatio : Rabbit : OECD Test G : slight or no sk : yes : Rabbit : OECD Test G : No skin irritatio	a are not met. on uideline 404 in irritation. uideline 404		
Based Produ Resul Comp bifent Specia Metho GLP Quart Specia Metho	d on available data, th <u>uct:</u> t <b>ponents:</b> <b>thrin (ISO):</b> es od t <b>t</b> <b>t</b> <b>t</b> <b>t</b> <b>t</b> <b>t</b> <b>t</b>	e classification criteria : No skin irritatio : Rabbit : OECD Test G : slight or no sk : yes : Rabbit : OECD Test G : No skin irritatio	a are not met. on uideline 404 in irritation.		
Based Produ Resul Comp bifent Speci Metho Resul GLP Quart Speci Metho Resul Rema	d on available data, th <u>uct:</u> t <u>bonents:</u> thrin (ISO): es od t t t arks	e classification criteria : No skin irritatio : Rabbit : OECD Test G : slight or no sk : yes : Rabbit : OECD Test G : No skin irritatio : Based on data	a are not met. on uideline 404 in irritation. uideline 404		
Based Produ Resul Comp bifent Speci Metho Resul GLP Quart Speci Resul Rema	d on available data, th <u>uct:</u> t <b>bonents:</b> <b>thrin (ISO):</b> es od t <b>t</b> <b>t</b> <b>t</b> <b>t</b> <b>us eye damage/eye</b>	e classification criteria : No skin irritatio : Rabbit : OECD Test G : slight or no sk : yes : Rabbit : OECD Test G : No skin irritatio : Based on data	a are not met. on uideline 404 in irritation. uideline 404 on a from similar materials		
Based Produ Resul Comp bifent Speci Metho Resul GLP Quart Speci Resul Rema	d on available data, th <u>uct:</u> t <u>ponents:</u> thrin (ISO): es od t t t <b>z (SiO2):</b> es od t arks <b>us eye damage/eye</b> d on available data, th	e classification criteria : No skin irritatio : Rabbit : OECD Test G : slight or no sk : yes : Rabbit : OECD Test G : No skin irritatio : Based on data	a are not met. on uideline 404 in irritation. uideline 404 on a from similar materials		



sion	Revision Date: 12.02.2025	SDS Number: 50001735	Date of last issue: - Date of first issue: 12.02.20
<u>Com</u>	oonents:		
bifen	thrin (ISO):		
Speci		: Rabbit	
Resu		: Slight or no ey	
Metho	bd	: OECD Test Gu	uideline 405
GLP		: yes	
Quar	tz (SiO2):		
Speci		: Rabbit	
Resul		: No eye irritatio	
Metho Rema		: OECD Test Gu	from similar materials
Kenne		. Dased on data	nom similar matchais
Resp	iratory or skin sens	itisation	
-	sensitisation	he classification criteria	are not mot
			ale not met.
-	iratory sensitisation		
Based	d on available data, t	he classification criteria	are not met.
Prod	uct:		
Resu	t	: Not a skin sen	sitizer.
<u>Com</u>	oonents:		
bifen	thrin (ISO):		
Test <sup>-</sup>		: Maximisation 7	Test
	sure routes	: Skin contact	
Speci		: Guinea pig	videline 406
Metho Resul		: OECD Test Gu	nsitisation by skin contact.
GLP		: yes	isitisation by skin contact.
Quar	tz (SiO2):		
Test		: Local lymph no	ode assay (LLNA)
Speci	es	: Mouse	
Metho		: OECD Test Gu	
Resul			e skin sensitisation.
Rema			from similar materials
	cell mutagenicity		
	d on available data, ti <u>oonents:</u>	he classification criteria	i are not met.
	thrin (ISO):		
		· Toot Turos cor	e mutation test
Geno	toxicity in vitro		ne mutation test Chinese hamster ovary cells
		1 531 3y316111. C	minese namster uval y tells



Metabolic activation: with and without metabolic activation         Result: negative         Test Type: reverse mutation assay         Metabolic activation: with and without metabolic activation         Method: OECD Test Guideline 471         Result: negative         Test Type: Mouse lymphoma assay         Metabolic activation: with and without metabolic activation         Result: negative         Genotoxicity in vivo       Itest Type: Sex-linked Recessive Lethal Test         Species: Drosophila melanogaster (vinegar fly)         Result: negative         Test Type: Inscheduled DNA synthesis assay         Species: Rat         Method: OECD Test Guideline 486         Result: negative         Remarks: Based on data from similar materials         Genotoxicity in vitro       Itest Type: reverse mutation assay         Result: negative         Remarks: Based on data from similar materials         Genotoxicity in vivo       Itest Type: Micronucleus test         Species: Rat         Method: OECD Test Guideline 474         Result: negative         Remarks: Based on data from similar materials         Carcinogenicity         Based on available data, the classification criteria are not met.         Producti         Definition (SO): <t< th=""><th>Version 1.0</th><th>Revision Date: 12.02.2025</th><th>-</th><th>DS Number: 001735</th><th>Date of last issue: - Date of first issue: 12.02.2025</th></t<>	Version 1.0	Revision Date: 12.02.2025	-	DS Number: 001735	Date of last issue: - Date of first issue: 12.02.2025
Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative         Test Type: Mouse lymphoma assay Metabolic activation: with and without metabolic activation Result: negative         Genotoxicity in vivo       : Test Type: Sex-linked Recessive Lethal Test Species: Drosophila melanogaster (vinegar fty) Result: negative         Cuartz (SiO2):       : Test Type: reverse mutation assay Result: negative         Quartz (SiO2):       : Test Type: reverse mutation assay Result: negative         Genotoxicity in vivo       : Test Type: reverse mutation assay Result: negative         Genotoxicity in vivo       : Test Type: reverse mutation assay Result: negative         Genotoxicity in vivo       : Test Type: Reverse mutation assay Result: negative         Genotoxicity in vivo       : Test Type: Reverse mutation assay Result: negative         Based on available data, the classification criteria are not met.         Product:       : Weight of evidence does not support classification as a car- cinogen, This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product.         Components:       : Years NOAEL       : Yaars NOAEL         Species       : Ang/kg bw/day Result       : negative         Species       : Mouse, male					on: with and without metabolic activation
Metabolic activation: with and without metabolic activation         Result: negative         Genotoxicity in vivo       : Test Type: Sex-linked Recessive Lethal Test         Species: Drosophila melanogaster (vinegar fly)         Result: negative         Test Type: unscheduled DNA synthesis assay         Species: Rat         Method: OECD Test Guideline 486         Result: negative         Genotoxicity in vitro       : Test Type: reverse mutation assay         Result: negative         Genotoxicity in vitro       : Test Type: Micronucleus test         Species: Rat         Method: OECD Test Guideline 474         Result: negative         Remarks: Based on data from similar materials         Carcinogenicity         Based on available data, the classification criteria are not met.         Product:         Carcinogenicity - Assess-         Based on available data, the classification criteria are not met.         Product:         Carcinogenicity - Assess-         Species         ment         Veight of evidence does not support classification as a carcinogen, This product contains crystalline silica (quartz) in a non-respirable form. Inhabition of crystalline silica is unlikely to occur from exposure to this product.         Components:         bifenthrin (ISO): <td></td> <td></td> <td></td> <td>Metabolic activation</td> <td>on: with and without metabolic activation</td>				Metabolic activation	on: with and without metabolic activation
Species: Drosophila melanogaster (vinegar fly) Result: negative Test Type: unscheduled DNA synthesis assay Species: Rat Method: OECD Test Guideline 486 Result: negative Quartz (SiO2): Genotoxicity in vitro :: Test Type: reverse mutation assay Result: negative Remarks: Based on data from similar materials Genotoxicity in vivo :: Test Type: Micronucleus test Species: Rat Method: OECD Test Guideline 474 Result: negative Remarks: Based on data from similar materials Carcinogenicity Based on available data, the classification criteria are not met. Product: Carcinogenicity - Assess- ment :: Weight of evidence does not support classification as a car- cinogen, This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product.				Metabolic activation	
Species: Rat Method: OECD Test Guideline 486 Result: negative Genotoxicity in vitro : Test Type: reverse mutation assay Result: negative Remarks: Based on data from similar materials Genotoxicity in vivo : Test Type: Micronucleus test Species: Rat Method: OECD Test Guideline 474 Result: negative Remarks: Based on data from similar materials Carcinogenicity Based on available data, the classification criteria are not met. Product: Carcinogenicity - Assess- ment : Weight of evidence does not support classification as a car- cinogen, This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product. Species : Rat, female Application Route : Oral Exposure time : 2 Years NOAEL : 3 mg/kg bw/day Result : negative Species : Mouse, male	Ge	notoxicity in vivo	:	Species: Drosoph	
Genotoxicity in vitro       : Test Type: reverse mutation assay Result: negative Remarks: Based on data from similar materials         Genotoxicity in vivo       : Test Type: Micronucleus test Species: Rat Method: OECD Test Guideline 474 Result: negative Remarks: Based on data from similar materials         Carcinogenicity       Based on available data, the classification criteria are not met.         Product:       Carcinogenicity - Assess- ment         Carcinogenicity - Assess- ment       : Weight of evidence does not support classification as a car- cinogen, This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product.         Components:       :         bifenthrin (ISO):       :         Species       : Rat, female         Application Route       : Oral         Exposure time       : 2 Years         NOAEL       : 3 mg/kg bw/day         Result       : negative         Species       : negative         Species       : Mouse, male				Species: Rat Method: OECD Te	
Genotoxicity in vitro       : Test Type: reverse mutation assay Result: negative Remarks: Based on data from similar materials         Genotoxicity in vivo       : Test Type: Micronucleus test Species: Rat Method: OECD Test Guideline 474 Result: negative Remarks: Based on data from similar materials         Carcinogenicity       Based on available data, the classification criteria are not met.         Product:       Carcinogenicity - Assess- ment         Carcinogenicity - Assess- ment       : Weight of evidence does not support classification as a car- cinogen, This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product.         Components:       :         bifenthrin (ISO):       :         Species       : Rat, female         Application Route       : Oral         Exposure time       : 2 Years         NOAEL       : 3 mg/kg bw/day         Result       : negative         Species       : negative         Species       : Mouse, male	Qu	artz (SiO2):			
Species: Rat Method: OECD Test Guideline 474 Result: negative Remarks: Based on data from similar materials         Carcinogenicity Based on available data, the classification criteria are not met.         Product: Carcinogenicity - Assess- ment       Weight of evidence does not support classification as a car- cinogen, This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product.         Components:       Veight of evidence does not support classification as a car- cinogen, This product contains crystalline silica is unlikely to occur from exposure to this product.         Difenthrin (ISO):       Rat, female         Application Route       Oral         Exposure time       2 Years         NOAEL       3 mg/kg bw/day         Result       : negative         Species       : Mouse, male			:	Result: negative	-
Based on available data, the classification criteria are not met.         Product:         Carcinogenicity - Assessment         Weight of evidence does not support classification as a carcinogen, This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product.         Components:         bifenthrin (ISO):         Species       : Rat, female         Application Route       : Oral         Exposure time       : 2 Years         NOAEL       : 3 mg/kg bw/day         Result       : negative         Species       : Mouse, male	Ge	notoxicity in vivo	:	Species: Rat Method: OECD To Result: negative	est Guideline 474
Carcinogenicity - Assessment       : Weight of evidence does not support classification as a carcinogen, This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product.         Components:       bifenthrin (ISO):         Species       : Rat, female         Application Route       : Oral         Exposure time       : 2 Years         NOAEL       : 3 mg/kg bw/day         Result       : negative         Species       : Mouse, male		• •	clas	sification criteria ar	e not met.
ment       cinogen, This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product.         Components:       bifenthrin (ISO):         Species       :         Application Route       :         Oral       :         Exposure time       :         Years       :         NOAEL       :         Species       :         Model       :         Species       :         Provide       :         Oral       :         Species       :         NOAEL       :         Species       :         NOAEL       :         Species       :         Mouse, male	Pro	oduct:			
bifenthrin (ISO):Species:Rat, femaleApplication Route:OralExposure time:2 YearsNOAEL:3 mg/kg bw/dayResult:negativeSpecies:Mouse, male			:	cinogen, This pro- non-respirable for	duct contains crystalline silica (quartz) in a m. Inhalation of crystalline silica is unlikely to
Species:Rat, femaleApplication Route:OralExposure time:2 YearsNOAEL:3 mg/kg bw/dayResult:negativeSpecies:Mouse, male	<u>Co</u>	mponents:			
Application Route:OralExposure time:2 YearsNOAEL:3 mg/kg bw/dayResult:negativeSpecies:Mouse, male	bif	enthrin (ISO):			
Exposure time       : 2 Years         NOAEL       : 3 mg/kg bw/day         Result       : negative         Species       : Mouse, male			:		
NOAEL       : 3 mg/kg bw/day         Result       : negative         Species       : Mouse, male					
Species : Mouse, male	NÖ	AEL	:	3 mg/kg bw/day	
·			:	-	
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Exp NO Res	blication Route bosure time AEL sult nptoms	: Oral : 18 month(s) : 7.6 mg/kg bw/o : positive : malignant tumo	
	<b>artz (SiO2):</b> cinogenicity - Assess- nt	: Human carcino	ogen.
Bas	broductive toxicity sed on available data, the mponents:	classification criteria	are not met.
bife	enthrin (ISO): ects on fertility	Species: Rat Application Ro General Toxici	ty - Parent: NOAEL: 3 mg/kg bw/day ty F1: NOAEL: 5 mg/kg bw/day
Effe me	ects on foetal develop- nt	Species: Rabb Application Ro General Toxici Teratogenicity Symptoms: Ma	ute: Oral ty Maternal: NOAEL: 2.7 mg/kg bw/day : NOAEL: 2.7 mg/kg bw/day
		Species: Rat Application Ro General Toxici Teratogenicity	bryo-foetal development ute: Oral ty Maternal: NOAEL: 1 mg/kg bw/day : NOAEL: 2 mg/kg bw/day atogenic effects
		Developmenta Embryo-foetal Method: OECI Result: Animal	ty Maternal: LOAEL: 7.2 mg/kg bw/day I Toxicity: LOAEL: 7.2 mg/kg bw/day toxicity: NOEL: 9.0 mg/kg bw/day D Test Guideline 426 testing did not show any effects on fertility., e of adverse effects on development, based on

### STOT - single exposure

Based on available data, the classification criteria are not met.





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Con	nponents:		
bife	enthrin (ISO):		
	get Organs essment	: Central nervou : Causes dama	
STO	OT - repeated exposur	e	
Bas	ed on available data, th	e classification criteria	a are not met.
	duct:		
Ass	essment	organ toxicant This product c respirable forn	e or mixture is not classified as specific target , repeated exposure. ontains crystalline silica (quartz) in a non- n. Inhalation of crystalline silica is unlikely to posure to this product.
Con	nponents:		
bife	enthrin (ISO):		
	get Organs essment		us system e or mixture is classified as specific target organ ated exposure, category 1.
Qua	artz (SiO2):		
Exp Tarç	osure routes get Organs essment		e or mixture is classified as specific target organ ated exposure, category 1.
Tarç	osure routes get Organs essment		m, Kidney e or mixture is classified as specific target organ ated exposure, category 2.
Rep	eated dose toxicity		
<u>Cor</u>	nponents:		
bife	enthrin (ISO):		
Spe NOI App Exp	cies	: Rat, male and : 100 ppm : Oral - feed : 90 d : No toxicologic	female ally significant effects were found.
NOI App Exp	cies EL lication Route osure time nptoms	: Dog, male and : 2.5 mg/kg bw/ : Oral - feed : 13 w : Tremors	



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Quart	tz (SiO2):			
			Det	
Speci LOAE		:	Rat 0.0025 mg/l	
	cation Route	:	Inhalation	
	sure time	÷	90 day	
Metho		:	OECD Test G	uideline 413
	et Organs	:	Lungs	
Rema	arks	:	Based on data	a from similar materials
Aspir	ation toxicity			
Based	d on available data, the	class	sification criteria	a are not met.
<u>Comr</u>	oonents:			
bifent	thrin (ISO):			
The s	ubstance does not have	e pro	perties associa	ted with aspiration hazard potential.
Furth	er information			
<u>Produ</u>	uct:			
Rema	arks	:	No data availa	ble
	12. ECOLOGICAL INF	ORN	IATION	
Ecoto	oxicity	ORN	IATION	
Ecoto <u>Comp</u>	oxicity oonents:	ORN	IATION	
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM		
Ecoto <u>Comp</u> bifent	oxicity oonents:	ORM :	LC50 (Salmo	gairdneri): 0.00015 mg/l
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo e Exposure time	e: 96 h
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORN :	LC50 (Salmo e Exposure time	
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORN :	LC50 (Salmo Exposure time Test Type: flow	e: 96 h w-through test
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo e Exposure time Test Type: flow LC50 (Lepomi Exposure time	e: 96 h w-through test is macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo e Exposure time Test Type: flow LC50 (Lepomi	e: 96 h w-through test is macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo g Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow	: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo g Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow LC50 (Oncorh	: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test ynchus mykiss (rainbow trout)): 0.000256 mg,
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo y Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow LC50 (Oncorh Exposure time Test Type: ser	e: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test ynchus mykiss (rainbow trout)): 0.000256 mg e: 96 h mi-static test
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo g Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow LC50 (Oncorh Exposure time Test Type: ser Method: OECI	: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test ynchus mykiss (rainbow trout)): 0.000256 mg e: 96 h
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo y Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow LC50 (Oncorh Exposure time Test Type: ser	e: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test ynchus mykiss (rainbow trout)): 0.000256 mg e: 96 h mi-static test
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo e Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow LC50 (Oncorh Exposure time Test Type: ser Method: OECI GLP: yes	e: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test ynchus mykiss (rainbow trout)): 0.000256 mg e: 96 h mi-static test D Test Guideline 203
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo g Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow LC50 (Oncorh Exposure time Test Type: ser Method: OECI GLP: yes LC50 (Pimeph mg/l	e: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test ynchus mykiss (rainbow trout)): 0.000256 mg, e: 96 h mi-static test D Test Guideline 203 males promelas (fathead minnow)): 0.000234
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo g Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow LC50 (Oncorh Exposure time Test Type: ser Method: OECI GLP: yes LC50 (Pimeph mg/l Exposure time	e: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test ynchus mykiss (rainbow trout)): 0.000256 mg, e: 96 h mi-static test D Test Guideline 203 males promelas (fathead minnow)): 0.000234 e: 96 h
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo g Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow LC50 (Oncorh Exposure time Test Type: ser Method: OECI GLP: yes LC50 (Pimeph mg/l Exposure time Test Type: ser	2: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test ynchus mykiss (rainbow trout)): 0.000256 mg, e: 96 h mi-static test D Test Guideline 203 hales promelas (fathead minnow)): 0.000234 e: 96 h mi-static test
Ecoto <u>Comp</u> bifent	oxicity <u>oonents:</u> thrin (ISO):	ORM :	LC50 (Salmo g Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow LC50 (Oncorh Exposure time Test Type: ser Method: OECI GLP: yes LC50 (Pimeph mg/l Exposure time Test Type: ser	e: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test ynchus mykiss (rainbow trout)): 0.000256 mg e: 96 h mi-static test D Test Guideline 203 males promelas (fathead minnow)): 0.000234 e: 96 h
Ecoto Comp bifent Toxici	oxicity <u>oonents:</u> thrin (ISO):	:	LC50 (Salmo e Exposure time Test Type: flow LC50 (Lepomi Exposure time Test Type: flow LC50 (Oncorh Exposure time Test Type: ser Method: OECI GLP: yes LC50 (Pimeph mg/I Exposure time Test Type: ser Method: OECI GLP: yes	2: 96 h w-through test s macrochirus (Bluegill sunfish)): 0.00035 mg e: 96 h w-through test ynchus mykiss (rainbow trout)): 0.000256 mg, e: 96 h mi-static test D Test Guideline 203 hales promelas (fathead minnow)): 0.000234 e: 96 h mi-static test



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			LC50 (Daphnia (w Exposure time: 48	rater flea)): 0.0016 mg/l h
Toxic plants	city to algae/aquatic s	:	EC50 (algae): 0.8 Exposure time: 72	
Toxic icity)	sity to fish (Chronic tox-	:	NOEC (Oncorhyn Exposure time: 21	chus mykiss (rainbow trout)): 0.00012 mg/l d
	tity to daphnia and other tic invertebrates (Chron- ticity)	:	NOEC (Daphnia n Exposure time: 21	nagna (Water flea)): 0.0013 µg/l d
			NOEC (Daphnia n Exposure time: 21	nagna (Water flea)): 0.00095 μg/l d
Toxic ganis	sity to soil dwelling or- sms	:	LD50 (Eisenia feti Exposure time: 14	da (earthworms)): > 16 mg/kg ∙ d
Toxic isms	city to terrestrial organ-	:	LD50 (Colinus vir	ginianus (Bobwhite quail)): 1,800 mg/kg
			LD50 (Anas platyr	hynchos (Mallard duck)): > 2,150 mg/kg
			LD50 (Apis mellife Exposure time: 24 End point: Acute of Method: OECD Te	oral toxicity
			LD50 (Apis mellife Exposure time: 24 End point: Acute of Method: OECD Te	contact toxicity
Quar	tz (SiO2):			
	city to fish	:	LC50 (Cyprinus ca Exposure time: 72	arpio (Carp)): > 10,000 mg/l : h
Pers	istence and degradabil	ity		
<u>Com</u>	ponents:			
	<b>thrin (ISO):</b> egradability	:	Result: Not readily	/ biodegradable.
Stabi	lity in water	:	Degradation half I Hydrolysis: at 60	
			Degradation half I Hydrolysis: at 40	
-				

Quartz (SiO2):





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	Biodeg	radability	:	Result: Not biode	gradable
	Bioaco	cumulative potential			
	Comp	onents:			
	bifentl	nrin (ISO):			
	Bioacc	umulation	:	Bioconcentration Remarks: Due to accumulation in o	macrochirus (Bluegill sunfish) factor (BCF): 1,709 the distribution coefficient n-octanol/water, rganisms is possible. octanol-water partition coefficient.
		on coefficient: n- I/water	:	log Pow: 6.6	
	Quartz	z (SiO2):			
	Bioacc	umulation	:	Remarks: Does n	ot bioaccumulate.
	Mobili	ty in soil			
	Comp	onents:			
	Distrib	nrin (ISO): ution among environ- compartments	:	Koc: 236610 ml/g Remarks: immobi	
	Other	adverse effects			
	Product Additio mation	nal ecological infor-	:	unprofessional ha	hazard cannot be excluded in the event of andling or disposal. atic life with long lasting effects.

### SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods	
Waste from residues	<ul> <li>The product should not be allowed to enter drains, water courses or the soil.</li> <li>Do not contaminate ponds, waterways or ditches with chemical or used container.</li> <li>Send to a licensed waste management company.</li> </ul>
Contaminated packaging	<ul> <li>Empty remaining contents.</li> <li>Dispose of as unused product.</li> <li>Do not re-use empty containers.</li> </ul>



# **BRIGADE GRANULAR INSECTICIDE**

Version 1.0	Revision Date: 12.02.2025	SDS Number: 50001735	Date of last issue: - Date of first issue: 12.02.2025
SECTION	14. TRANSPORT INFO	RMATION	
Interr	national Regulations		
UNR	TDG		
	umber er shipping name	: UN 3077 : ENVIRONMEI N.O.S. (Bifenthrin)	NTALLY HAZARDOUS SUBSTANCE, SOLID,
Packi Label	idiary risk ng group	: 9 : ENVIRONM. : III : 9 (ENVIRONM : yes	1.)
ΙΑΤΑ	-DGR		
UN/IE Prope	) No. er shipping name	: UN 3077 : Environmental (Bifenthrin)	lly hazardous substance, solid, n.o.s.
Label Packi aircra Packi	ng group s ng instruction (cargo	: 9 : III : Miscellaneous : 956 : 956	
Envir	onmentally hazardous	: yes	
UN n	<b>6-Code</b> umber er shipping name	: UN 3077 : ENVIRONMEI N.O.S. (Bifenthrin)	NTALLY HAZARDOUS SUBSTANCE, SOLID
Label EmS	ng group s Code le pollutant	<ul> <li>9</li> <li>III</li> <li>9</li> <li>F-A, S-F</li> <li>yes</li> <li>Environmental single or comb single or inner net quantity pe liquids may be</li> </ul>	lly hazardous substances/Marine Pollutants in bination packaging containing a net quantity p packaging of 5 kg or less for solids, or having er single or inner packaging of 5 L or less for transported as non-dangerous goods as pro- al provision A197 of the IATA and section DG code.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable for product as supplied.

### **National Regulations**

ADG

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,



Version	Revision Date: 12.02.2025	SDS Number:	Date of last issue: -
1.0		50001735	Date of first issue: 12.02.2025
Labels Hazche	em Code nmentally hazardous	tions of UN 3077 when transported	hazardous substances meeting the descrip- or UN 3082 are not subject to the ADG Code d by road or rail in packagings that do not eptacle exceeding 500 kg / liters, or IBCs

#### Special precautions for user

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

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

Safety, health and environmental regulations/legislation specific for the substance or mix ture		
Therapeutic Goods (Poisons	:	No poison schedule number allocated (Please use the original

Therapeutic Goods (Poisons	no poison schedule number allocated (Please use the original
Standard) Instrument	publication to check for specific uses, specific conditions or
	threshold limits that might apply for this chemical)

:

APVMA No.: 52791

Prohibition/Licensing Requirements

Quartz (SiO2) Refer to model WHS Act and Regulations for prohibition, authorisation and restricted use.

#### The components of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains one or several components that are not on the Canadian DSL nor NDSL.
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
ISHL KECI	:	Not in compliance with the inventory Not in compliance with the inventory



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IECSC	:	: Not in co	mpliance with the inventory
NZIoC		: Not in co	mpliance with the inventory
TECI		: Not in co	mpliance with the inventory

### SECTION 16: ANY OTHER RELEVANT INFORMATION

Date format : dd.mm.yyyy

#### Full text of other abbreviations

ACGIH AU OEL	USA. ACGIH Threshold Limit Values (TLV) Australia. Workplace Exposure Standards for Airborne Con- taminants.
ACGIH / TWA AU OEL / TWA	8-hour, time-weighted average Exposure standard - time weighted average

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



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