

# SAFETY DATA SHEET



## Biflex 240 Wood Treatment Insecticide

Version	Revision Date:	SDS Number:	Date of last issue: 27.05.2021
1.1	04.11.2021	50001769	Date of first issue: 27.05.2021

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### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Biflex 240 Wood Treatment Insecticide

Other means of identification : BISTAR WT  
ONYX INSECTICIDE (BIFENTHRIN)  
BIFLEX SFR TERMITICIDE  
BASELINE

#### Recommended use of the chemical and restrictions on use

Recommended use : Can be used as insecticide only.

Restrictions on use : Use as recommended by the label.

#### Manufacturer or supplier's details

Company : FMC Australasia Pty Ltd

Address : Building B, Level 2, 12 Julius Avenue,  
North Ryde NSW 2113

Telephone : +6161029887900

Emergency telephone number : For leak, fire, spill or accident emergencies, call:  
1800 033 111 (Ixm)

Medical emergency:  
1 800 033 111 (Transport and 24 h Medical information)

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 3

Skin corrosion/irritation : Category 2

Skin sensitisation : Sub-category 1B

Specific target organ toxicity - repeated exposure : Category 1 (Nervous system)

Aspiration hazard : Category 1



#### GHS label elements

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- Hazard pictograms :  
- Signal word : Danger
- Hazard statements : H227 Combustible liquid.  
H301 Toxic if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H372 Causes damage to organs (Nervous system) through prolonged or repeated exposure.
- Precautionary statements : **Prevention:**  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/ eye protection/ face protection.  
**Response:**  
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P314 Get medical advice/ attention if you feel unwell.  
P331 Do NOT induce vomiting.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
**Storage:**  
P405 Store locked up.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards which do not result in classification

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)
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diisopropyl-1,1'-biphenyl	69009-90-1	>= 30 -< 60
bifenthrin (ISO)	82657-04-3	>= 10 -< 30
Distillates (petroleum), hydrotreated light	64742-47-8	>= 10 -< 30
Nonylphenol, branched, ethoxylated	68412-54-4	>= 3 -< 10
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8	>= 1 -< 3

### SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Symptoms of poisoning may appear several hours later.  
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 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 : Keep respiratory tract clear.  
Do NOT induce vomiting.  
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 : Toxic if swallowed.  
May be fatal if swallowed and enters airways.  
Causes skin irritation.  
May cause an allergic skin reaction.  
Causes damage to organs through prolonged or repeated exposure.
- Notes to physician : Treat symptomatically.

### SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Water spray  
Dry chemical  
Regular foam
- Unsuitable extinguishing media : High volume water jet

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- |   |   |
|---|---|
| Specific hazards during fire-fighting         | : Do not allow run-off from fire fighting to enter drains or water courses.   |
| Hazardous combustion products                 | : Thermal decomposition can lead to release of irritating gases and vapours.<br>Halogenated compounds<br>Carbon oxides  |
| Specific extinguishing methods                | : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.<br>Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.<br>For safety reasons in case of fire, cans should be stored separately in closed containments.<br>Use a water spray to cool fully closed containers. |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus for firefighting if necessary.  |
| Hazchem Code                                  | : 2X  |

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- |   |  |
|---|--|
| Personal precautions, protective equipment and emergency procedures | : Use personal protective equipment.<br>Ensure adequate ventilation.   |
| Environmental precautions   | : Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.<br>If the product contaminates rivers and lakes or drains inform respective authorities.  |
| Methods and materials for containment and cleaning up               | : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).<br>Keep in suitable, closed containers for disposal. |

**SECTION 7. HANDLING AND STORAGE**

- |   |   |
|---|---|
| Advice on protection against fire and explosion | : Do not spray on a naked flame or any incandescent material.<br>Keep away from open flames, hot surfaces and sources of ignition.  |
| Advice on safe handling                         | : Avoid formation of aerosol.<br>Do not breathe vapours/dust.<br>Avoid exposure - obtain special instructions before use.<br>Avoid contact with skin and eyes.<br>For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Provide sufficient air exchange and/or exhaust in work rooms.<br>Dispose of rinse water in accordance with local and national |

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regulations.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

- Hygiene measures : Avoid contact with skin, eyes and clothing.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and immediately after handling the product.
- Conditions for safe storage : Prevent unauthorized access.  
No smoking.  
Keep in a well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.
- Materials to avoid : Do not store near acids.
- Further information on storage stability : 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 parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated light	64742-47-8	TWA (Mist)	5 mg/m <sup>3</sup>	AU OEL
		TWA	200 mg/m <sup>3</sup> (total hydrocarbon vapor)	ACGIH

## Personal protective equipment

- Respiratory protection : In case of mist, spray or aerosol 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.
- Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles
- Skin and body protection : Impervious clothing

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Choose body protection according to the amount and concentration of the dangerous substance at the work place.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: amber
Odour	: hydrocarbon-like
pH	: 3.7 - 4.7
Flash point	: 73 - 75 °C
Flammability (liquids)	: Sustains combustion
Relative density	: 8.5 - 8.7
Density	: 8.5 - 8.7 lb/gal
Solubility(ies)	
Water solubility	: emulsifiable

### SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: Stable under recommended storage conditions.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: Strong acids Strong bases Strong oxidizing agents
Hazardous decomposition products	: Halogenated compounds Carbon oxides

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Toxic if swallowed.

#### Product:

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Acute oral toxicity : LD50 (Rat): 153 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 7.25 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

**Components:****diisopropyl-1,1'-biphenyl:**

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg

**bifenthrin (ISO):**

Acute oral toxicity : LD50 (Rat, male and female): 56.7 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 0.8 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403

LC50 (Rat, male): 1.10 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg

**Distillates (petroleum), hydrotreated light:**

Acute oral toxicity : LD50 (Rat, male and female): > 15,000 mg/kg  
Method: OECD Test Guideline 423  
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC0 (Rat, male and female): > 5.28 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403  
Remarks: Based on data from similar materials  
no mortality

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from similar materials

**Nonylphenol, branched, ethoxylated:**

Acute oral toxicity : LD50 (Rat, male and female): 1,980 mg/kg

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

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Acute oral toxicity : LD0 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 401  
Remarks: no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 1,000 - 1,600 mg/kg  
Method: OECD Test Guideline 402

**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Species : Rabbit  
Result : Skin irritation

Remarks : May cause skin irritation and/or dermatitis.

**Components:****diisopropyl-1,1'-biphenyl:**

Species : Rabbit  
Result : Skin irritation

**bifenthrin (ISO):**

Species : Rabbit  
Method : EPA OPP 81-5  
Result : No skin irritation

**Distillates (petroleum), hydrotreated light:**

Assessment : Repeated exposure may cause skin dryness or cracking.

**Nonylphenol, branched, ethoxylated:**

Species : Rabbit  
Method : Draize Test  
Result : Skin irritation

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Species : Rabbit  
Result : Skin irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Species : Rabbit  
Result : Mild eye irritation

Remarks : Vapours may cause irritation to the eyes, respiratory system and the skin.



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**Components:****diisopropyl-1,1'-biphenyl:**

Species	: Rabbit
Result	: No eye irritation

**bifenthrin (ISO):**

Species	: Rabbit
Result	: No eye irritation
Method	: EPA OPP 81-4

**Distillates (petroleum), hydrotreated light:**

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

**Nonylphenol, branched, ethoxylated:**

Species	: Rabbit
Result	: Irreversible effects on the eye
Method	: Draize Test

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Species	: Rabbit
Result	: Irreversible effects on the eye

**Respiratory or skin sensitisation****Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.

**Product:**

Test Type	: Buehler Test
Species	: Guinea pig
Result	: The product is a skin sensitiser, sub-category 1B.
Remarks	: Causes sensitisation.

**Components:****diisopropyl-1,1'-biphenyl:**

Test Type	: Maximisation Test
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: Does not cause skin sensitisation.

**bifenthrin (ISO):**

Test Type	: Magnussen-Kligman test
Method	: OECD Test Guideline 406

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Result : May cause sensitisation by skin contact.

Species : Buehler Test  
: Guinea pig  
: Not a skin sensitizer.

**Distillates (petroleum), hydrotreated light:**

Test Type : Maximisation Test  
Exposure routes : Intradermal  
Species : Guinea pig  
Result : Does not cause skin sensitisation.  
Remarks : Based on data from similar materials

**Nonylphenol, branched, ethoxylated:**

Test Type : Magnusson-Kligman test  
Species : Guinea pig  
Result : Does not cause skin sensitisation.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Test Type : Maximisation Test  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.

**Chronic toxicity****Germ cell mutagenicity**

Not classified based on available information.

**Components:****diisopropyl-1,1'-biphenyl:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Test Type: reverse mutation assay  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

**bifenthrin (ISO):**

Genotoxicity in vitro : Test Type: gene mutation test  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Result: negative

Test Type: reverse mutation assay  
Metabolic activation: with and without metabolic activation

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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 fly)  
Result: negative

Test Type: unscheduled DNA synthesis assay

Species: Rat

Method: OECD Test Guideline 486

Result: negative

**Distillates (petroleum), hydrotreated light:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse (male and female)  
Application Route: Intraperitoneal injection  
Result: negative  
Remarks: Based on data from similar materials

**Nonylphenol, branched, ethoxylated:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Method: OECD Test Guideline 471  
Result: negative

Test Type: gene mutation test

Method: OECD Test Guideline 476

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Result: negative  
Remarks: Based on data from similar materials

Test Type: reverse mutation assay

Method: Mutagenicity (*Salmonella typhimurium* - reverse mutation assay)

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse (male and female)  
Application Route: Oral

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Result: negative

Remarks: Based on data from similar materials

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

**Carcinogenicity**

Not classified based on available information.

**Components:****bifenthrin (ISO):**

Species : Rat, female  
Application Route : Oral  
Exposure time : 2 Years  
NOAEL : 3 mg/kg bw/day  
Result : negative

Species : Mouse, male  
Application Route : Oral  
Exposure time : 18 month(s)  
NOAEL : 7.6 mg/kg bw/day  
Result : positive  
Symptoms : malignant tumors

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

**Distillates (petroleum), hydrotreated light:**

Species : Rat, male  
Application Route : inhalation (vapour)  
Exposure time : 105 weeks  
: 0.138 mg/l  
Result : positive  
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : The observed tumors do not appear to be relevant for men.

**Nonylphenol, branched, ethoxylated:**

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

**Reproductive toxicity**

Not classified based on available information.

**Components:****bifenthrin (ISO):**

Effects on fertility : Test Type: Two-generation study  
Species: Rat  
Application Route: Oral  
General Toxicity - Parent: NOAEL: 3 mg/kg bw/day

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General Toxicity F1: NOAEL: 5 mg/kg bw/day  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rabbit  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 2.7 mg/kg bw/day  
Teratogenicity: NOAEL: 2.7 mg/kg bw/day  
Symptoms: Maternal effects  
Result: No teratogenic effects

Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 1 mg/kg bw/day  
Teratogenicity: NOAEL: 2 mg/kg bw/day  
Result: No teratogenic effects

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

**Distillates (petroleum), hydrotreated light:**

Effects on fertility : Test Type: Fertility  
Species: Rat, male and female  
Application Route: inhalation (vapour)  
Duration of Single Treatment: 14 Weeks  
General Toxicity - Parent: NOAEC: 2.2 mg/l  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 500 mg/kg body weight  
Teratogenicity: NOAEL: 2,000 mg/kg body weight  
Remarks: Developmental effects are a consequence of maternal toxicity.

**Nonylphenol, branched, ethoxylated:**

Effects on foetal development : Test Type: reproductive and developmental toxicity study  
Species: Rat  
Application Route: Oral  
General Toxicity Maternal: NOEL: 50 mg/kg body weight  
Developmental Toxicity: NOAEL: 50 mg/kg body weight  
Symptoms: foetal abnormalities  
Result: negative  
Remarks: Based on data from similar materials

Test Type: reproductive and developmental toxicity study  
Species: Rat  
Application Route: Dermal  
Developmental Toxicity: NOAEL: 500 mg/kg body weight  
Symptoms: foetal abnormalities  
Result: negative  
Remarks: Based on data from similar materials

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**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Effects on fertility : Test Type: Three-generation study  
Species: Rat, male and female  
Application Route: Oral  
Dose: 14, 70, 350 mg/kg bw d  
General Toxicity - Parent: NOAEL: 350 mg/kg body weight  
General Toxicity F1: NOAEL: 350 mg/kg bw/day  
General Toxicity F2: NOAEL: 350 mg/kg bw/day  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: reproductive and developmental toxicity study  
Species: Rat  
Application Route: Oral  
Dose: 0.2, 2.0, 300 and 600 mg/kg  
Duration of Single Treatment: 20 d  
General Toxicity Maternal: LOAEL: 600 mg/kg body weight  
Teratogenicity: LOAEL: 600 mg/kg bw/day  
Result: negative  
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

**STOT - single exposure**

Not classified based on available information.

**Components:****bifenthrin (ISO):**

Remarks : No significant adverse effects were reported

**Nonylphenol, branched, ethoxylated:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

**STOT - repeated exposure**

Causes damage to organs (Nervous system) through prolonged or repeated exposure.

**Components:****bifenthrin (ISO):**

Target Organs : Nervous system  
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

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**Distillates (petroleum), hydrotreated light:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Nonylphenol, branched, ethoxylated:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Repeated dose toxicity****Components:****bifenthrin (ISO):**

Species : Rat, male and female  
NOEL : 100 ppm  
Application Route : Oral - feed  
Exposure time : 90 d  
Remarks : No toxicologically significant effects were found.

Species : Dog, male and female  
NOEL : 2.5 mg/kg bw/day  
Application Route : Oral - feed  
Exposure time : 13 w  
Symptoms : Tremors

**Distillates (petroleum), hydrotreated light:**

Species : Rat  
NOAEL :  $\geq 200$  ppm  
Application Route : inhalation (vapour)  
Exposure time : 13 weeks  
Remarks : Based on data from similar materials

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Species : Rat, male and female  
NOAEL : 40 mg/kg bw/day  
LOAEL : 115 mg/kg bw/day  
Application Route : Oral - feed  
Exposure time : 6 months  
Dose : 40, 115, 340, 1030 mg/kg bw d  
Remarks : Based on data from similar materials

**Aspiration toxicity**

May be fatal if swallowed and enters airways.

**Product:**

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.

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**Components:****diisopropyl-1,1'-biphenyl:**

May be fatal if swallowed and enters airways.

**bifenthrin (ISO):**

The substance does not have properties associated with aspiration hazard potential.

**Distillates (petroleum), hydrotreated light:**

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.

**Further information****Product:**

Remarks : Solvents may degrease the skin.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****diisopropyl-1,1'-biphenyl:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 8.24 µg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Remarks: No toxicity at the limit of solubility  
Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 4.52 µg/l  
Exposure time: 48 h  
Test Type: flow-through test  
Method: OECD Test Guideline 202  
Remarks: No toxicity at the limit of solubility  
Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 10.1 µg/l  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
Remarks: No toxicity at the limit of solubility  
Based on data from similar materials

**Ecotoxicology Assessment**

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

**bifenthrin (ISO):**

Toxicity to fish : LC50 (Salmo gairdneri): 0.15 µg/l



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Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.11 µg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (algae): 0.822 mg/l  
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 10,000

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.00012 mg/l  
Exposure time: 21 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0013 µg/l  
Exposure time: 21 d

NOEC (Daphnia magna (Water flea)): 0.00095 µg/l  
Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 100,000

Toxicity to soil dwelling organisms : (Eisenia fetida (earthworms)): > 16 mg/kg  
Exposure time: 14 d

Toxicity to terrestrial organisms : LD50 (Colinus virginianus (Bobwhite quail)): 1,800 mg/kg

LD50 (Apis mellifera (bees)): 0.044 - 0.11 µg/bee  
End point: Acute contact toxicity

LD50 (Apis mellifera (bees)): 0.1 µg/bee  
End point: Acute oral toxicity

LD50 (Anas platyrhynchos (Mallard duck)): > 2,150 mg/kg

**Distillates (petroleum), hydrotreated light:**

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 1,000 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Remarks: water accommodated fractions (WAF)

Toxicity to daphnia and other aquatic invertebrates : LL50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 48 h  
Test Type: static test  
Remarks: water accommodated fractions (WAF)

Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201

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EL50 (*Pseudokirchneriella subcapitata* (green algae)): > 1,000 mg/l  
 Exposure time: 72 h  
 Test Type: static test  
 Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOELR (*Oncorhynchus mykiss* (rainbow trout)): 0.173 mg/l  
 Exposure time: 28 d  
 Method: QSAR  
 Remarks: No toxicity at the limit of solubility water accommodated fractions (WAF)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (*Daphnia magna* (Water flea)): 1.22 mg/l  
 Exposure time: 21 d  
 Method: QSAR  
 Remarks: No toxicity at the limit of solubility water accommodated fractions (WAF)

Toxicity to microorganisms : EL50 (*Tetrahymena pyriformis*): > 1,000 mg/l  
 Exposure time: 48 h  
 Method: QSAR

**Nonylphenol, branched, ethoxylated:****Ecotoxicology Assessment**

Acute aquatic toxicity : Toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Toxicity to fish : LC50 (*Danio rerio* (zebra fish)): 31.6 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 62 mg/l  
 Exposure time: 48 h  
 Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (*Pseudokirchneriella subcapitata* (green algae)): 29 mg/l  
 Exposure time: 96 h  
 Remarks: Based on data from similar materials

NOEC (*Pseudokirchneriella subcapitata* (green algae)): 0.5 mg/l  
 Exposure time: 96 h  
 Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity) : NOEC (*Oncorhynchus mykiss* (rainbow trout)): 0.23 mg/l  
 Exposure time: 72 d  
 Test Type: flow-through test  
 Remarks: Based on data from similar materials

Toxicity to daphnia and other : NOEC (*Daphnia magna* (Water flea)): 1.18 mg/l

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aquatic invertebrates (Chronic toxicity)	:	Exposure time: 21 d Test Type: flow-through test Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 (activated sludge): 550 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to soil dwelling organisms	:	NOEC (Eisenia fetida (earthworms)): 250 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207 Remarks: Based on data from similar materials  LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207 Remarks: Based on data from similar materials
Plant toxicity	:	EC50: 167 mg/kg Exposure time: 21 d Species: Sorghum bicolor (sorghum)  80 mg/kg Exposure time: 14 d Species: Avena sativa (oats)
Toxicity to terrestrial organisms	:	EC10 (Hypoaspis aculeifer): 82 mg/kg Exposure time: 21 d Remarks: Information given is based on data obtained from similar substances.

**Persistence and degradability****Components:****diisopropyl-1,1'-biphenyl:**

Biodegradability	:	Inoculum: activated sludge, non-adapted Result: Not rapidly biodegradable Biodegradation: 67 % Exposure time: 43 d Method: OECD Test Guideline 310 Remarks: Based on data from similar materials
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**bifenthrin (ISO):**

Biodegradability	:	Result: Not readily biodegradable.
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**Distillates (petroleum), hydrotreated light:**

Biodegradability	:	Concentration: 50 mg/l Result: Readily biodegradable. Biodegradation: 89.9 % Exposure time: 28 d Method: OECD Test Guideline 301
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**Nonylphenol, branched, ethoxylated:**

Biodegradability : Result: Not readily biodegradable.  
Remarks: Based on data from similar materials

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Biodegradability : Inoculum: activated sludge, non-adapted  
Result: Not readily biodegradable.  
Biodegradation: 2.9 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301E

Result: Inherently biodegradable.  
Biodegradation: > 35 - 45 %  
Exposure time: 10 d

**Bioaccumulative potential****Components:****diisopropyl-1,1'-biphenyl:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 1,310 - 3,930  
Exposure time: 8 Weeks  
Method: OECD Test Guideline 305C  
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 6.67

**bifenthrin (ISO):**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Bioconcentration factor (BCF): 1,709  
Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.  
See section 9 for octanol-water partition coefficient.

**Distillates (petroleum), hydrotreated light:**

Bioaccumulation : Bioconcentration factor (BCF): 144.3  
Method: QSAR

**Nonylphenol, branched, ethoxylated:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.  
Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 5.39 (20 °C)

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Bioaccumulation : Bioconcentration factor (BCF): 3.16  
Method: QSAR

# SAFETY DATA SHEET



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Partition coefficient: n-octanol/water : log Pow: 4.595 (20 °C)

### Mobility in soil

#### Components:

#### **bifenthrin (ISO):**

Distribution among environmental compartments : Remarks: immobile

Stability in soil : Dissipation time: 86 d

### Other adverse effects

#### Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### **UNRTDG**

UN number : UN 3352  
Proper shipping name : PYRETHROID PESTICIDE, LIQUID, TOXIC (Bifenthrin)  
Class : 6.1  
Packing group : III  
Labels : 6.1

#### **IATA-DGR**

UN/ID No. : UN 3352  
Proper shipping name : Pyrethroid pesticide, liquid, toxic (Bifenthrin)  
Class : 6.1  
Packing group : III

# SAFETY DATA SHEET



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Labels : Toxic  
Packing instruction (cargo aircraft) : 663  
Packing instruction (passenger aircraft) : 655

### IMDG-Code

UN number : UN 3352  
Proper shipping name : PYRETHROID PESTICIDE, LIQUID, TOXIC (Bifenthrin)  
Class : 6.1  
Packing group : III  
Labels : 6.1  
EmS Code : F-A, S-A  
Marine pollutant : yes

### 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 3352  
Proper shipping name : PYRETHROID PESTICIDE, LIQUID, TOXIC (Bifenthrin)  
Class : 6.1  
Packing group : III  
Labels : 6.1  
Hazchem Code : 2X

### 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 mixture

Standard for the Uniform Scheduling of Medicines and Poisons : Schedule 7

APVMA approval no.: 88129

Prohibition/Licensing Requirements : There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

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**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.
AICS	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL.  diisopropyl-1,1'-biphenyl bifenthrin (ISO)
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory

**SECTION 16. OTHER INFORMATION**

Revision Date : 04.11.2021

Date format : dd.mm.yyyy

**Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
AU OEL : Australia. Workplace Exposure Standards for Airborne Contaminants.

ACGIH / TWA : 8-hour, time-weighted average  
AU OEL / TWA : 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

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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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