

Fipronil Formulation

| Version | Revision Date: | SDS Number: | Date of last issue: 14.06.2024 |
|---------|----------------|---------------|---------------------------------|
| 4.0 | 06.07.2024 | 4789409-00011 | Date of first issue: 27.08.2019 |

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

| Product name | : | Fipronil Formulation | | | | | |
|---|---|---------------------------------|--|--|--|--|--|
| Manufacturer or supplier's details | | | | | | | |
| Company name of supplier | : | MSD | | | | | |
| Address | : | 126 E. Lincoln Avenue | | | | | |
| | | Rahway, New Jersey U.S.A. 07065 | | | | | |
| Telephone | : | 908-740-4000 | | | | | |
| Emergency telephone | : | 1-908-423-6000 | | | | | |
| E-mail address | : | EHSDATASTEWARD@msd.com | | | | | |
| Recommended use of the chemical and restrictions on use | | | | | | | |
| Recommended use | : | Veterinary product | | | | | |
| Restrictions on use | : | Not applicable | | | | | |

SECTION 2. HAZARDS IDENTIFICATION

| GHS Classification Flammable liquids | : | Category 3 |
|---|---|--|
| Acute toxicity (Oral) | : | Category 4 |
| Acute toxicity (Inhalation) | : | Category 3 |
| Skin corrosion/irritation | : | Category 2 |
| Serious eye damage/eye irritation | : | Category 2A |
| Specific target organ toxicity - repeated exposure | : | Category 1 (Central nervous system, Kidney) |
| GHS label elements Hazard pictograms | : | |
| Signal Word | : | Danger |
| Hazard Statements | : | H226 Flammable liquid and vapor. H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H331 Toxic if inhaled. H372 Causes damage to organs (Central nervous system, Kidney) through prolonged or repeated exposure. |
| Precautionary Statements | : | Prevention: P210 Keep away from heat, hot surfaces, sparks, open flames |



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| | | P260 Do not bro P264 Wash skir P270 Do not ea P271 Use only | on sources. No smoking. eathe mist or vapors. In thoroughly after handling. t, drink or smoke when using this product. outdoors or in a well-ventilated area. tective gloves/ protective clothing/ eye protection |
| | | Response: | |
| | | CENTER or dod P303 + P361 + all contaminated P304 + P340 + and keep at res POISON CENT P305 + P351 + for several minu to do. Continue P314 Get media P332 + P313 If tion. P337 + P313 If tion. | P330 IF SWALLOWED: Call a POISON ctor/ physician if you feel unwell. Rinse mouth. P353 IF ON SKIN (or hair): Take off immediated clothing. Rinse skin with water. P311 IF INHALED: Remove victim to fresh air t in a position comfortable for breathing. Call a ER or doctor/ physician. P338 IF IN EYES: Rinse cautiously with water ites. Remove contact lenses, if present and ea rinsing. cal advice/ attention if you feel unwell. skin irritation occurs: Get medical advice/ atter eye irritation persists: Get medical advice/ atter |
| | | Storage: | |
| | | P405 Store lock | ed up. |
| | | Disposal: | |
| | | P501 Dispose o posal plant. | of contents/ container to an approved waste dis |
| Other | hazards | | |
| 1/ | s may form explosive | | |

Substance / Mixture : Mixture

Components

| CAS-No. | Concentration (% w/w) |
|-------------|-----------------------|
| 111-76-2 | >= 70 -< 90 |
| 64-17-5 | >= 10 -< 20 |
| 120068-37-3 | >= 1 -< 5 |
| | 111-76-2 64-17-5 |

Voluntarily-disclosed substance

SECTION 4. FIRST AID MEASURES

General advice

: In the case of accident or if you feel unwell, seek medical advice immediately.

When symptoms persist or in all cases of doubt seek medical advice.



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| If inhaled | | : | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. 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. Thoroughly clean shoes before reuse. | | | | |
| In case of eye contact | | : | 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. | | | | |
| lf swal | lowed | : | If swallowed, DO so by medical pe Get medical atter Rinse mouth tho | NOT induce vomiting unless directed to do rsonnel. | | | |
| Most important symptoms and effects, both acute and delayed | | | Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Toxic if inhaled. Causes damage to organs through prolonged or repeated exposure. There may be delayed neurological effects, including brain oedema. | | | | |
| Protec | tion of first-aiders | : | First Aid respond and use the reco | used with organophosphorous compounds! ers should pay attention to self-protection, mmended personal protective equipment al for exposure exists (see section 8). | | | |
| Notes | to physician | : | | ically and supportively. | | | |

SECTION 5. FIRE-FIGHTING MEASURES

| Suitable extinguishing media | : | Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical |
|---------------------------------------|---|--|
| Unsuitable extinguishing media | : | High volume water jet |
| Specific hazards during fire fighting | : | Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapors may form explosive mixtures with air. Exposure to combustion products may be a hazard to health. |
| Hazardous combustion prod- ucts | : | Nitrogen oxides (NOx) Sulfur oxides Carbon oxides Chlorine compounds Fluorine compounds |
| Specific extinguishing meth- ods | : | Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment. |



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| | Special for fire- | protective equipment fighters | : | Remove undamag so. Evacuate area. | o cool unopened containers. ged containers from fire area if it is safe to do e, wear self-contained breathing apparatus. ective equipment. |
| SEC | TION 6 | ACCIDENTAL RELE | ASI | EMEASURES | |
| | tive equ | al precautions, protec- uipment and emer- procedures | : | | |
| | Enviror | nmental precautions | : | Prevent spreading oil barriers). Retain and dispos | akage or spillage if safe to do so. g over a wide area (e.g., by containment or se of contaminated wash water. should be advised if significant spillages |
| | | ls and materials for ment and cleaning up | : | Suppress (knock of jet. For large spills, pr containment to ke can be pumped, s container. Clean up remainir absorbent. Local or national r disposal of this ma employed in the c determine which r Sections 13 and 1 | s should be used. t absorbent material. down) gases/vapors/mists with a water spray rovide diking or other appropriate ep material from spreading. If diked material store recovered material in appropriate ing materials from spill with suitable regulations may apply to releases and aterial, as well as those materials and items leanup of releases. You will need to regulations are applicable. 5 of this SDS provide information regarding tional requirements. |

SECTION 7. HANDLING AND STORAGE

| Technical measures | | See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section. |
|-------------------------|---|--|
| Local/Total ventilation | Ņ | 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. |
| | I | Do not breathe mist or vapors. |
| | - | Do not swallow. |
| | | Do not get in eyes. |
| | | Wash skin thoroughly after handling. |
| | I | Handle in accordance with good industrial hygiene and safety |



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| | | assessment Non-sparking t Keep contained Keep away from other ignition s Take precautio Do not eat, drir | d on the results of the workplace exposure ools should be used. r tightly closed. m heat, hot surfaces, sparks, open flames and ources. No smoking. mary measures against static discharges. hk or smoke when using this product. revent spills, waste and minimize release to the |
| Hygie | ne measures | flushing system place. When using do Wash contamin The effective o engineering co appropriate de industrial hygie | chemical is likely during typical use, provide eye ns and safety showers close to the working o not eat, drink or smoke. hated clothing before re-use. peration of a facility should include review of ntrols, proper personal protective equipment, gowning and decontamination procedures, ene monitoring, medical surveillance and the trative controls. |
| Condi | itions for safe storage | : Keep in proper Store locked up Keep tightly clo Keep in a cool, Store in accord | ly labeled containers. p. |
| Mater | ials to avoid | : Do not store w Strong oxidizin Self-reactive su Organic peroxi Flammable sol Pyrophoric liqu Pyrophoric soli Self-heating su Substances an flammable gas Explosives Gases | ith the following product types: g agents ubstances and mixtures des ids ids ds ubstances and mixtures id mixtures which in contact with water emit |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control parame- ters / Permissible concentration | Basis |
|-----------------|-------------|-------------------------------------|--|-----------------------|
| 2-Butoxyethanol | 111-76-2 | VLE-PPT | 20 ppm | NOM-010- STPS-2014 |
| | | TWA | 20 ppm | ACGIH |
| Ethanol | 64-17-5 | VLE-CT | 1,000 ppm | NOM-010- STPS-2014 |
| | | STEL | 1,000 ppm | ACGIH |
| Fipronil | 120068-37-3 | TWA | 2 µg/m3 (OEB 4) | Internal |



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|----------------|---------------------------|------------------------------|-------------|--|----------|
| I | | Further inform | ation: Skin | | |
| | | | Wipe limit | 20 µg/100 cm2 | Internal |

Biological occupational exposure limits

| Components | CAS-No. | Control parameters | Biological specimen | Sam- pling time | Permissible concentra- tion | Basis | |
|--|--|---|--|---|---|---------------------------|--|
| 2-Butoxyethanol | 111-76-2 | Butoxyaceti c acid (BAA) | Urine | End of shift | 200 mg/g creatinine | MX BEI | |
| | | Butoxyaceti c acid (BAA) | Urine | End of shift (As soon as possible after exposure ceases) | 200 mg/g creatinine | ACGIH BEI | |
| Engineering measures | des pro Ess Uso If h cat pot | engineering co sign and opera tect products, sentially no ope e closed proce andled in a lab binet, fume hoo ential exists fo st, handle over | ted in accord workers, and en handling ssing system poratory, use od, or other o r aerosolizat | dance with d the enviro permitted. ns or contai a properly containmention. If this p | GMP principle nment. nment techno designed bios t device if the potential does | s to logies. safety | |
| | | e explosion-pro uipment. | oof electrical | , ventilating | and lighting | | |
| Personal protective equ | ipment | | | | | | |
| Respiratory protection Filter type Hand protection | exp rec | dequate local oosure assessi ommended gu mbined particu | ment demon iidelines, use | strates expe e respiratory | osures outside / protection. | e the | |
| Material | : Ch | emical-resistar | nt gloves | | | | |
| Remarks | flar | nsider double (nmable, which tection. | | | | | |
| Eye protection | : We If th mis We pot | Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols. Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing. | | | | | |
| Skin and body protection | : Wo Ado tas dis Uso | | | | | | |



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| SECTI | ON 9. PHYSICAL AND CHE | ΞΜΙΟ | | 3 |
| Ap | opearance | : | liquid | |
| C | olor | : | yellow | |
| 0 | dor | : | characteristic | |
| 0 | dor Threshold | : | No data available | • |
| pł | 1 | : | No data available | • |
| М | elting point/freezing point | : | No data available | • |
| | itial boiling point and boiling nge | : | 78.5 °C | |
| FI | ash point | : | 29 °C | |
| E\ | vaporation rate | : | No data available | • |
| FI | ammability (solid, gas) | : | Not applicable | |
| FI | ammability (liquids) | : | Not applicable | |
| | oper explosion limit / Upper Immability limit | : | No data available | |
| | ower explosion limit / Lower Immability limit | : | No data available | |
| Va | apor pressure | : | No data available | • |
| R | elative vapor density | : | 0.91 - 0.95 | |
| R | elative density | : | 0.91 - 0.95 | |
| De | ensity | : | No data available | |
| So | blubility(ies) Water solubility | : | slightly soluble | |
| | artition coefficient: n- :tanol/water | : | Not applicable | |
| | utoignition temperature | : | No data available | |
| De | ecomposition temperature | : | No data available | |
| Vi | scosity Viscosity, kinematic | : | No data available | |
| Ex | plosive properties | : | Not explosive | |
| | | | | |



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| Oxidiz | zing properties | : The | e substance o | r mixture is not classified as oxidizing. |
| Moleo | cular weight | : No | data available | 9 |
| | cle characteristics cle size | : No | t applicable | |

SECTION 10. STABILITY AND REACTIVITY

| Reactivity Chemical stability Possibility of hazardous reac- tions | : | Not classified as a reactivity hazard. Stable under normal conditions. Flammable liquid and vapor. Vapors may form explosive mixture with air. Can react with strong oxidizing agents. |
|--|---|--|
| Conditions to avoid Incompatible materials Hazardous decomposition products | : | Heat, flames and sparks. Oxidizing agents No hazardous decomposition products are known. |

SECTION 11. TOXICOLOGICAL INFORMATION

| Information on likely route Inhalation Skin contact Ingestion Eye contact | es of | exposure |
|---|-------|---|
| Acute toxicity Harmful if swallowed. Toxic if inhaled. | | |
| Product: | | |
| Acute oral toxicity | : | Acute toxicity estimate: 1,290 mg/kg Method: Calculation method |
| Acute inhalation toxicity | : | Acute toxicity estimate: 3 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method |
| Acute dermal toxicity | : | Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method |
| Components: | | |
| 2-Butoxyethanol: | | |
| Acute oral toxicity | : | LD50 (Guinea pig): 1,200 mg/kg |
| Acute inhalation toxicity | : | Acute toxicity estimate: 3 mg/l Exposure time: 4 h Test atmosphere: vapor |



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| I | | | Method: Expert ju | udgment |
| Acute | e dermal toxicity | : | LD50 (Guinea pig | g): > 2,000 mg/kg |
| Etha | nol: | | | |
| | e oral toxicity | : | LD50 (Rat): 10,47 Method: OECD T | 70 mg/kg Test Guideline 401 |
| Acute | e inhalation toxicity | : | LC50 (Rat, male) Exposure time: 4 Test atmosphere | h |
| Acute | e dermal toxicity | : | LD50 (Rabbit): > | 15,800 mg/kg |
| Fipro | onil: | | | |
| | e oral toxicity | : | LD50 (Rat): 92 m | g/kg |
| Acute | e inhalation toxicity | : | LC50 (Rat): 0.36 Exposure time: 4 Test atmosphere | h |
| Acute | e dermal toxicity | : | LD50 (Rabbit): 35 | 54 mg/kg |
| Caus <u>Com</u> | corrosion/irritation ses skin irritation. ponents: | | | |
| 2-Bu Spec Meth Resu | od | : | Rabbit Directive 67/548/ Skin irritation | EEC, Annex V, B.4. |
| Etha | nol: | | | |
| Spec Meth Resu | od | : | Rabbit OECD Test Guide No skin irritation | eline 404 |
| Fipro | onil: | | | |
| Spec Meth Resu | cies od | : | Rabbit OECD Test Guide No skin irritation | eline 404 |
| | ous eye damage/eye in ses serious eye irritation | | on | |
| | ponents: | | | |
| 2-Bu | toxyethanol: | | | |
| Spec Resu | cies | : | Rabbit Irritation to eyes, | reversing within 21 days |
| | | | 9 / 19 | |



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|---|---------------------------------|-----|--|---|--|--|--|--|
| Method | | : | OECD Test Guide | line 405 | | | | |
| Ethanol: Species Result Method | | : | Rabbit Irritation to eyes, r OECD Test Guide | eversing within 21 days line 405 | | | | |
| Fipronil: Species Result Method | | : | Rabbit No eye irritation OECD Test Guideline 405 | | | | | |
| Respiratory Skin sensitiz | or skin sensitiza | tio | n | | | | | |
| | based on availab | ole | information. | | | | | |
| Respiratory : | | | | | | | | |
| Not classified Components | based on availat | ole | information. | | | | | |
| 2-Butoxyetha | | | | | | | | |
| Test Type Routes of exp Species Method Result | | : | Maximization Test Skin contact Guinea pig OECD Test Guide negative | | | | | |
| Ethanol: | | | | | | | | |
| Test Type Routes of exp Species Result | oosure | : | Mouse ear swellin Skin contact Mouse negative | g test (MEST) | | | | |
| Fipronil: | | | | | | | | |
| Test Type Routes of exp Species Method Result | oosure | : | Buehler Test Skin contact Guinea pig OECD Test Guide negative | line 406 | | | | |
| Germ cell mu | utagenicity based on availat | ale | information | | | | | |
| <u>Components</u> | | 510 | | | | | | |
| 2-Butoxyetha | | | | | | | | |
| Genotoxicity i | | : | Test Type: Bacteri Result: negative | al reverse mutation assay (AMES) | | | | |
| | | | 10 / 19 | | | | | |



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| | | Test Type: Chro Result: negative | pmosome aberration test in vitro |
| | | Test Type: In vir Result: negative | tro mammalian cell gene mutation test |
| | | Test Type: In vi malian cells Result: equivoc | tro sister chromatid exchange assay in mam- al |
| Genc | otoxicity in vivo | cytogenetic ass Species: Rat | te: Intraperitoneal injection |
| | | cytogenetic ass Species: Mouse | te: Intraperitoneal injection |
| Etha | nol: | | |
| Genc | otoxicity in vitro | | erial reverse mutation assay (AMES) Test Guideline 471 e |
| | | | tro mammalian cell gene mutation test Test Guideline 476 e |
| | | Test Type: Chro Result: negative | omosome aberration test in vitro |
| Genc | otoxicity in vivo | : Test Type: Man cytogenetic ass Species: Rat Application Rou Result: negative | te: Ingestion |
| Fipro | onil: | | |
| | otoxicity in vitro | | rerial reverse mutation assay (AMES) Test Guideline 471 e |
| | | | tro mammalian cell gene mutation test Test Guideline 476 e |
| | | | omosome aberration test in vitro Test Guideline 473 e |
| | | | |



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| Genoto | oxicity in vivo | Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Method: OECD Test Guideline 474 Result: negative Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo Species: Rat Application Route: Ingestion Method: OECD Test Guideline 486 Result: negative | | | | |
| Carcin | ogenicity | | | | | |
| Not cla | ssified based on availa | le information. | | | | |
| Comp | onents: | | | | | |
| 2-Buto | oxyethanol: | | | | | |
| Specie | | : Rat | | | | |
| | ation Route ure time | : inhalation (vapor) : 2 Years | | | | |
| Result | | : negative | | | | |
| Fipron | il: | | | | | |
| Specie | | : Mouse | | | | |
| | ation Route | : Ingestion | | | | |
| Exposi Method | ure time | 78 weeksDirective 67/548/EEC, Annex V, B.32. | | | | |
| Result | 4 | : negative | | | | |
| Specie | S | : Rat | | | | |
| | ation Route | : Ingestion | | | | |
| Exposi Method | ure time | 104 weeksDirective 67/548/EEC, Annex V, B.33. | | | | |
| Result | 1 | : positive | | | | |
| Remar | ks | : The mechanism or mode of action is not re | elevant in humans. | | | |
| Repro | ductive toxicity | | | | | |
| Not cla | ssified based on availa | le information. | | | | |
| Comp | onents: | | | | | |
| 2-Buto | oxyethanol: | | | | | |
| Effects | on fertility | : Test Type: Two-generation reproduction to Species: Mouse Application Route: Ingestion Result: negative | xicity study | | | |
| Effects | on fetal development | : Test Type: Embryo-fetal development Species: Rat Application Route: Ingestion Result: negative | | | | |
| | | 12/19 | | | | |



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| | | | Species: Rat | vo-fetal development :: inhalation (vapor) |
| Ethan | ol: | | | |
| Effects | s on fertility | : | Test Type: Two-g Species: Mouse Application Route Result: negative | eneration reproduction toxicity study |
| Fipror | nil: | | | |
| Effects | s on fertility | : | Test Type: Two-g Species: Rat Application Route Result: negative | eneration reproduction toxicity study |
| Effects | s on fetal development | : | Test Type: Embry Species: Rabbit Application Route Method: OECD T Result: negative | 5 |
| | -single exposure | | · • | |
| Not cla | assified based on availa | able | information. | |

STOT-repeated exposure

Causes damage to organs (Central nervous system, Kidney) through prolonged or repeated exposure.

Components:

Fipronil:

| Routes of exposure | : Ingestion |
|---|--|
| Target Organs | : Central nervous system, Kidney |
| Routes of exposure Target Organs Assessment | : Shown to produce significant health effects in animals at con- |
| 11 | centrations of 10 mg/kg bw or less. |

Repeated dose toxicity

Components:

Ethanol:

| Species NOAEL LOAEL Application Route Exposure time | : | Rat 1,730 mg/kg 3,200 mg/kg Ingestion |
|---|---|--|
| Exposure time | | 90 Days |



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| Fipro | | : | Rabbit | | |
| NOA LOAI Appli Expo | NOAEL LOAEL Application Route Exposure time Method | | 5 mg/kg 10 mg/kg Skin contact 21 Days OECD Test Guideline 410 | | |
| Species NOAEL LOAEL Application Route Exposure time Method | | : | Rat, male 0.059 mg/kg 0.019 mg/kg Ingestion 89 Weeks Directive 67/548/EEC, Annex V, B.33. | | |

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2-Butoxyethanol:

| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 1,464 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 |
|---|---|--|
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 1,800 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): 1,840 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 |
| | | EC10 (Pseudokirchneriella subcapitata (green algae)): 679 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 |
| Toxicity to fish (Chronic tox- icity) | : | NOEC (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 21 d |
| Toxicity to daphnia and other aquatic invertebrates (Chron- ic toxicity) | : | EC10 (Daphnia magna (Water flea)): 134 mg/l Exposure time: 21 d Method: OECD Test Guideline 211 |
| Ethanol: Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): 14,200 mg/l Exposure time: 96 h |



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| · : | EC50 (Ceriodaph Exposure time: 48 | nia dubia (water flea)): 5,012 mg/l 3 h | |
| : | ErC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l Exposure time: 72 h | | |
| | EC10 (Chlorella v Exposure time: 72 | rulgaris (Fresh water algae)): 11.5 mg/l 2 h | |
| : | NOEC (Oryzias la Exposure time: 10 | atipes (Japanese medaka)): >= 79 mg/l 00 d | |
| | NOEC (Daphnia r Exposure time: 9 | nagna (Water flea)): 9.6 mg/l d | |
| : | EC50 (Protozoa): 5,800 mg/l Exposure time: 4 h | | |
| | | | |
| : | LC50 (Lepomis m Exposure time: 96 | acrochirus (Bluegill sunfish)): 85.2 μg/l δ h | |
| · : | LC50 (Mysidopsis Exposure time: 96 | s bahia (opossum shrimp)): 0.14 μg/l δ h | |
| : | EC50 (Desmodes Exposure time: 96 Method: OECD T | | |
| | NOEC (Desmode Exposure time: 96 Method: OECD T | | |
| : | NOEC (Cyprinodo µg/l Exposure time: 35 | on variegatus (sheepshead minnow)): 2.9 5 d | |
| | NOEC (Mysidops Exposure time: 28 | is bahia (opossum shrimp)): 0.0077 μg/l 3 d | |
| : | EC50: > 1,000 mg Exposure time: 3 | | |
| | 47 - : : : : : : | Exposure time: 44 ErC50 (Chlorella y Exposure time: 72 EC10 (Chlorella y Exposure time: 72 NOEC (Oryzias la Exposure time: 10 NOEC (Daphnia n Exposure time: 9 EC50 (Protozoa): Exposure time: 4 LC50 (Lepomis m Exposure time: 96 LC50 (Desmodes Exposure time: 96 EC50 (Desmodes Exposure time: 96 EC50 (Desmodes Exposure time: 96 EC50 (Desmodes Exposure time: 96 EC50 (Desmodes Exposure time: 96 NOEC (Desmodes Exposure time: 96 Method: OECD T NOEC (Cyprinodo µg/l Exposure time: 38 NOEC (Mysidopsis Exposure time: 38 | |

Persistence and degradability

Components:

2-Butoxyethanol:

| Biodegradability | : Result: Readily biodegradable. |
|------------------|----------------------------------|
| | Biodegradation: 90.4 % |
| | Exposure time: 28 d |
| Biodegradability | Method: OECD Test Guideline 301B |



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|----------------|---|--------------------|---|---|--|--|
| | Ethanol: Biodegradability | | : Result: Readily biodegradable. Biodegradation: 84 % Exposure time: 20 d | | | |
| Fipro | nil: | | | | | |
| Biode | gradability | Biode Expo | egradation: sure time: | | | |
| Bioad | cumulative potential | | | | | |
| Comp | oonents: | | | | | |
| 2-But | oxyethanol: | | | | | |
| | on coefficient: n- ol/water | : log P | ow: 0.81 | | | |
| Ethar | nol: | | | | | |
| | on coefficient: n- ol/water | : log P | ow: -0.35 | | | |
| Fipro | nil: | | | | | |
| Bioac | cumulation | | | is macrochirus (Bluegill sunfish) n factor (BCF): 321 | | |
| | on coefficient: n- ol/water | : log P | ow: 4 | | | |
| | l ity in soil Ita available | | | | | |
| | adverse effects Ita available | | | | | |

SECTION 13. DISPOSAL CONSIDERATIONS

| 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 handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose 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. |

SECTION 14. TRANSPORT INFORMATION

International Regulations



Fipronil Formulation

| Version 4.0 | Revision Date: 06.07.2024 | | 8 Number: 9409-00011 | Date of last issue: 14.06.2024 Date of first issue: 27.08.2019 |
|--|--|---|--|---|
| Class Subsid Packin Labels Enviror IATA-I UN/ID Proper Class Subsid Packin Labels | mber shipping name iary risk g group nmentally hazardous DGR No. shipping name iary risk g group g instruction (cargo | | UN 1992 FLAMMABLE LIG (Ethanol, Fipron 3 6.1 III 3 (6.1) no UN 1992 Flammable liquic (Ethanol, Fipron 3 6.1 III Flammable Liqui 366 | l, toxic, n.o.s. il) |
| | g instruction (passen- | : | 355 | |
| IMDG- UN nur Proper Class Subsid Packin Labels EmS C | Code mber shipping name iary risk g group | : | UN 1992 FLAMMABLE LI((Ethanol, Fiproni 3 6.1 III 3 (6.1) F-E, S-D yes | QUID, TOXIC, N.O.S. I) |

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

NOM-002-SCT

| | UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethanol, Fipronil) |
|-------------------|---|
| Class : | 3 |
| Subsidiary risk : | 6.1 |
| Packing group : | 111 |
| | 3 (6.1) |

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.



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SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Federal Law for the control of chemical precursors, : Not applicable essential chemical products and machinery for producing capsules, tablets and pills.

| AICS | : | not determined |
|-------|---|----------------|
| DSL | : | not determined |
| IECSC | : | not determined |

SECTION 16. OTHER INFORMATION

| Revision Date | : | 06.07.2024 |
|---------------|---|------------|
| Date format | : | dd.mm.yyyy |

Full text of other abbreviations

| ACGIH ACGIH BEI MX BEI | : | USA. ACGIH Threshold Limit Values (TLV) ACGIH - Biological Exposure Indices (BEI) Official Mexican Norm NOM-047-SSA1-2011, Environmental Health - Biological exposure indices for workers occupational- ly exposed to chemical agents |
|---------------------------------|---|---|
| NOM-010-STPS-2014 | : | Mexico. Norm NOM-010-STPS-2014 on Chemicals Polluting the Work Environment - Identification, Assessment and Con- trol - Appendix 1 Occupational Exposure Limits |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| ACGIH / STEL | | Short-term exposure limit |
| NOM-010-STPS-2014 / VLE- PPT | | Time weighted average limit value |
| NOM-010-STPS-2014 / VLE- CT | : | Short term exposure limit value |

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median



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Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Sources of key data used to : compile the Material Safety Data Sheet

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information is considered as correct, but not exhaustive, and will be used only as a guide, which is based in the current knowledge of the substance or mixture, and is applicable to proper safety precautions for the product.

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