SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Fluazuron / Fipronil Formulation

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Fluazuron / Fipronil Formulation

Manufacturer or supplier’s details
Company : MSD
Address : No. 485 Jing Tai Road
Pu Tuo District - Shanghai - China 200331
Telephone : 908-740-4000
Emergency telephone number : 86-571-87268110
E-mail address : EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use
Recommended use : Veterinary product

2. HAZARDS IDENTIFICATION

Emergency Overview
Appearance : liquid
Colour : light yellow
Odour : solvent-like
Flammable liquid and vapour. May be harmful if swallowed or in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause cancer. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

GHS Classification
Flammable liquids : Category 3
Acute toxicity (Oral) : Category 5
Acute toxicity (Dermal) : Category 5
Skin corrosion/irritation : Category 2
Serious eye damage/eye irritation : Category 2A
Carcinogenicity : Category 1B
Reproductive toxicity : Category 1B
Specific target organ toxicity - single exposure : Category 3
Specific target organ toxicity - : Category 2
Fluazuron / Fipronil Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>2020/03/23</td>
<td>557846-00009</td>
<td>2019/09/13</td>
<td>2016/03/15</td>
</tr>
</tbody>
</table>

repeated exposure

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term (acute) aquatic hazard</td>
<td>1</td>
</tr>
<tr>
<td>Long-term (chronic) aquatic hazard</td>
<td>1</td>
</tr>
</tbody>
</table>

GHS label elements

**Hazard pictograms**

- Flame
- Person
- Exclamation
- Plant

**Signal word**

Danger

**Hazard statements**

- H226 Flammable liquid and vapour.
- H303 + H313 May be harmful if swallowed or in contact with skin.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H350 May cause cancer.
- H360D May damage the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention:**

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P260 Do not breathe mist or vapours.
- P264 Wash skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water...
for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER/doctor if you feel unwell.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:
P501 Dispose of contents/container to an approved waste disposal plant.

Physical and chemical hazards
Flammable liquid and vapour.

Health hazards
May be harmful if swallowed. May be harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause cancer. May damage the unborn child. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.

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

Other hazards which do not result in classification
Vapours may form explosive mixture with air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Mixture</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2-(2-Butoxyethoxy)ethanol</td>
<td>112-34-5</td>
<td>&gt;= 50 -&lt; 70</td>
</tr>
<tr>
<td></td>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>&gt;= 10 -&lt; 20</td>
</tr>
<tr>
<td></td>
<td>Ethanol</td>
<td>64-17-5</td>
<td>&gt;= 10 -&lt; 20</td>
</tr>
<tr>
<td></td>
<td>Fluazuron</td>
<td>86811-58-7</td>
<td>&gt;= 2.5 -&lt; 10</td>
</tr>
<tr>
<td></td>
<td>Fipronil (ISO)</td>
<td>120068-37-3</td>
<td>&gt;= 1 -&lt; 2.5</td>
</tr>
<tr>
<td></td>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>128-37-0</td>
<td>&gt;= 0.1 -&lt; 0.25</td>
</tr>
<tr>
<td></td>
<td>tert-butyl-4-methoxyphenol</td>
<td>25013-16-5</td>
<td>&gt;= 0.1 -&lt; 0.25</td>
</tr>
</tbody>
</table>

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.
If inhaled: If inhaled, remove to fresh air. Get medical attention.

In case of skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. 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.

If swallowed: If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed: May be harmful if swallowed or in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause cancer. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure.

Protection of first-aiders: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician: Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media: High volume water jet

Specific hazards during firefighting: Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.

Hazardous combustion products: Carbon oxides
Nitrogen oxides (NOx)
Chlorine compounds
Fluorine compounds
Sulphur oxides

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

Special protective equipment for firefighters
In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions
Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up
Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide diking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

7. HANDLING AND STORAGE

Handling
Technical measures
See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation
If sufficient ventilation is unavailable, use with local exhaust ventilation.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Advice on safe handling
Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Do not get in eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.
Non-sparking tools should be used.
Keep container tightly closed. Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.

Avoidance of contact: Oxidizing agents

Storage

Materials to avoid: Do not store with the following product types: Self-reactive substances and mixtures Organic peroxides Oxidizing agents Flammable gases Pyrophoric liquids Pyrophoric solids Self-heating substances and mixtures Poisonous gases Explosives

Packaging material: Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(2-Butoxyethoxy)ethanol</td>
<td>112-34-5</td>
<td>TWA (Inhalable fraction and vapor)</td>
<td>10 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>STEL</td>
<td>1,000 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Fluazuron</td>
<td>86811-58-7</td>
<td>TWA</td>
<td>60 µg/m3 (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>600 µg/ 100cm2</td>
<td>Internal</td>
</tr>
<tr>
<td>Fipronil (ISO)</td>
<td>120068-37-3</td>
<td>TWA</td>
<td>2 µg/m3 (OEB 4)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>20 µg/100 cm2</td>
<td>Internal</td>
</tr>
</tbody>
</table>

Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>128-37-0</td>
<td>TWA (Inhalable fraction and vapor)</td>
<td></td>
<td>2 mg/m3</td>
<td>ACGIH</td>
<td></td>
</tr>
</tbody>
</table>
9. PHYSICAL AND CHEMICAL PROPERTIES
# Fluazuron / Fipronil Formulation

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>light yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>solvent-like</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>32 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (liquids)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>The substance or mixture is not classified as oxidizing.</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No data available</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

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Date of first issue: 2016/03/15

Particle size: No data available

10. STABILITY AND REACTIVITY
Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions:
- Flammable liquid and vapour.
  Vapours may form explosive mixture with air.
  Can react with strong oxidizing agents.

Conditions to avoid: Heat, flames and sparks.
Incompatible materials: Oxidizing agents
Hazardous decomposition products: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION
Exposure routes:
- Inhalation
- Skin contact
- Ingestion
- Eye contact

Acute toxicity: May be harmful if swallowed or in contact with skin.

Product:
Acute oral toxicity:
- Acute toxicity estimate: 2,242 mg/kg
  Method: Calculation method

Acute inhalation toxicity:
- Acute toxicity estimate: > 10 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Method: Calculation method

Acute dermal toxicity:
- Acute toxicity estimate: 3,646 mg/kg
  Method: Calculation method

Components:
2-(2-Butoxyethoxy)ethanol:
Acute oral toxicity:
- LD50 (Mouse): 2,410 mg/kg

Acute dermal toxicity:
- LD50 (Rabbit): 2,764 mg/kg

N-Methyl-2-pyrrolidone:
Acute oral toxicity:
- LD50 (Rat): 4,150 mg/kg

Acute inhalation toxicity:
- LC50 (Rat): > 5.1 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Method: OECD Test Guideline 403
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<table>
<thead>
<tr>
<th>Component</th>
<th>Acute oral toxicity</th>
<th>Acute inhalation toxicity</th>
<th>Acute dermal toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>LD50 (Rat): &gt; 5,000 mg/kg</td>
<td>LC50 (Rat): 124.7 mg/l</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 401</td>
<td></td>
<td>OECD Test Guideline 402</td>
</tr>
<tr>
<td>Fluazuron</td>
<td>LD50 (Rat): &gt; 5,000 mg/kg</td>
<td>LC50 (Rat): &gt; 6.0 mg/l</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 401</td>
<td>Exposure time: 4 h Test atmosphere: vapour</td>
<td>OECD Test Guideline 402</td>
</tr>
<tr>
<td>Fipronil (ISO)</td>
<td>LD50 (Rat): 92 mg/kg</td>
<td>LC50 (Rat): 0.36 mg/l</td>
<td>LD50 (Rabbit): 354 mg/kg</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 401</td>
<td>Exposure time: 4 h Test atmosphere: dust/mist</td>
<td>OECD Test Guideline 402</td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>LD50 (Rat): &gt; 6,000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 401</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tert-butyl-4-methoxyphenol</td>
<td>LD50 (Rat): 2,000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assessment: The substance or mixture has no acute dermal toxicity.
Skin corrosion/irritation
Causes skin irritation.

Components:

2-(2-Butoxyethoxy)ethanol:
- Species: Rabbit
- Method: OECD Test Guideline 404
- Result: Mild skin irritation

N-Methyl-2-pyrrolidone:
- Result: Skin irritation

Ethanol:
- Species: Rabbit
- Method: OECD Test Guideline 404
- Result: No skin irritation

Fluazuron:
- Species: Rabbit
- Method: OECD Test Guideline 404
- Result: No skin irritation

Fipronil (ISO):
- Species: Rabbit
- Method: OECD Test Guideline 404
- Result: No skin irritation

2,6-Di-tert-butyl-p-cresol:
- Species: Rabbit
- Method: OECD Test Guideline 404
- Result: No skin irritation
- Remarks: Based on data from similar materials

tert-butyl-4-methoxyphenol:
- Result: Skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.

Components:

2-(2-Butoxyethoxy)ethanol:
- Species: Rabbit
- Result: Irritation to eyes, reversing within 21 days

N-Methyl-2-pyrrolidone:
- Species: Rabbit
- Result: Irritation to eyes, reversing within 21 days
Ethanol:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days
Method: OECD Test Guideline 405

Fluazuron:
Species: Rabbit
Result: Mild eye irritation
Method: OECD Test Guideline 405

Fipronil (ISO):
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

2,6-Di-tert-butyl-p-cresol:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

tert-butyl-4-methoxyphenol:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

Respiratory or skin sensitisation
Skin sensitisation
Not classified based on available information.
Respiratory sensitisation
Not classified based on available information.

Components:

2-(2-Butoxyethoxy)ethanol:
Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

N-Methyl-2-pyrrolidone:
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Method: OECD Test Guideline 429
Result: negative
Remarks: Based on data from similar materials
Ethanol:
- Test Type: Local lymph node assay (LLNA)
- Exposure routes: Skin contact
- Species: Mouse
- Result: negative

Fluazuron:
- Exposure routes: Skin contact
- Species: Guinea pig
- Result: negative

Fipronil (ISO):
- Test Type: Buehler Test
- Exposure routes: Skin contact
- Species: Guinea pig
- Method: OECD Test Guideline 406
- Result: negative

2,6-Di-tert-butyl-p-cresol:
- Test Type: Human repeat insult patch test (HRIPT)
- Exposure routes: Skin contact
- Species: Humans
- Result: negative

tert-butyl-4-methoxyphenol:
- Test Type: Human repeat insult patch test (HRIPT)
- Exposure routes: Skin contact
- Result: negative

Germ cell mutagenicity
Not classified based on available information.

Components:
2-(2-Butoxyethoxy)ethanol:
- Genotoxicity in vitro
  - Test Type: Bacterial reverse mutation assay (AMES)
    - Result: negative
  - Test Type: In vitro mammalian cell gene mutation test
    - Result: negative
  - Test Type: Chromosome aberration test in vitro
    - Result: negative
- Genotoxicity in vivo
  - Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
    - Species: Mouse
    - Application Route: Ingestion
    - Result: negative
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N-Methyl-2-pyrrolidone:

Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

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

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

Genotoxicity 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: Mutagenicity (in vivo mammalian bone marrow cytogenetic test, chromosomal analysis)
Species: Hamster
Application Route: Ingestion
Method: OECD Test Guideline 475
Result: negative

Ethanol:

Genotoxicity in vitro: Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo: Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Ingestion
Result: equivocal

Fluazuron:

Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: DNA Repair
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Genotoxicity in vivo: Test Type: Cytogenetic assay
Species: Hamster
Result: equivocal
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Fipronil (ISO):

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Method: OECD Test Guideline 471
  Result: negative

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

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

Genotoxicity 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

2,6-Di-tert-butyl-p-cresol:

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Result: negative

  Test Type: In vitro mammalian cell gene mutation test
  Result: negative

  Test Type: Chromosome aberration test in vitro
  Result: negative

Genotoxicity in vivo:
- Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
  Species: Rat
  Application Route: Ingestion
  Result: negative

tert-butyl-4-methoxyphenol:

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Result: negative

Carcinogenicity
- May cause cancer.
### Components:

**N-Methyl-2-pyrrolidone:**
- **Species:** Rat
- **Application Route:** Ingestion
- **Exposure time:** 2 Years
- **Result:** negative

**Fluazuron:**
- **Species:** Rat
- **Application Route:** Ingestion
- **Exposure time:** 2 Years
- **Method:** OECD Test Guideline 453
- **Result:** negative

**Fipronil (ISO):**
- **Species:** Mouse
- **Application Route:** Ingestion
- **Exposure time:** 78 weeks
- **Result:** negative

**2,6-Di-tert-butyl-p-cresol:**
- **Species:** Rat
- **Application Route:** Ingestion
- **Exposure time:** 22 Months
- **Result:** negative

**tert-butyl-4-methoxyphenol:**
- **Species:** Hamster
- **Application Route:** Ingestion
- **Exposure time:** 24 weeks
- **Result:** positive

**Remarks:** The mechanism or mode of action is not relevant in humans.
Species: Rat
Application Route: Ingestion
Exposure time: 12 Months
Result: positive

Carcinogenicity - Assessment: Sufficient evidence of carcinogenicity in animal experiments

Reproductive toxicity: May damage the unborn child.

Components:

2-(2-Butoxyethoxy)ethanol:
Effects on fertility: Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 415
Result: negative

Effects on foetal development: Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

N-Methyl-2-pyrrolidone:
Effects on fertility: Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development: Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: positive

Test Type: Fertility/early embryonic development
Species: Rat
Application Route: inhalation (vapour)
Result: positive

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Result: positive

Reproductive toxicity - Assessment: Clear evidence of adverse effects on development, based on animal experiments.

Ethanol:
Effects on fertility: Test Type: Two-generation reproduction toxicity study
### Fluazuron / Fipronil Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>2020/03/23</td>
<td>557846-00009</td>
<td>2019/09/13</td>
<td>2016/03/15</td>
</tr>
</tbody>
</table>

#### Fluazuron:

**Effects on fertility**
- Test Type: Two-generation reproduction toxicity study
- Species: Rat
- Application Route: Ingestion
- Result: negative

**Effects on foetal development**
- Test Type: Embryo-foetal development
- Species: Rat
- Application Route: Ingestion
- Result: negative
- Test Type: Embryo-foetal development
- Species: Rabbit
- Application Route: Ingestion
- Method: OECD Test Guideline 414
- Result: negative

#### Fipronil (ISO):

**Effects on fertility**
- Test Type: Two-generation reproduction toxicity study
- Species: Rat
- Application Route: Ingestion
- Result: negative

**Effects on foetal development**
- Test Type: Embryo-foetal development
- Species: Rat
- Application Route: Ingestion
- Result: negative
- Test Type: Embryo-foetal development
- Species: Rabbit
- Application Route: Ingestion
- Method: OECD Test Guideline 414
- Result: negative

#### 2,6-Di-tert-butyl-p-cresol:

**Effects on fertility**
- Test Type: Two-generation reproduction toxicity study
- Species: Rat
- Application Route: Ingestion
- Result: negative

**Effects on foetal development**
- Test Type: Embryo-foetal development
- Species: Rat
- Application Route: Ingestion
- Result: negative

#### tert-butyl-4-methoxyphenol:

**Effects on fertility**
- Test Type: One-generation reproduction toxicity study
- Species: Rat
- Application Route: Ingestion
- Result: positive

**Effects on foetal development**
- Test Type: Embryo-foetal development
Fluazuron / Fipronil Formulation

Species: Rat
Application Route: Ingestion
Result: positive

Reproductive toxicity - Assessment:

Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

STOT - single exposure
May cause respiratory irritation.

Components:

N-Methyl-2-pyrrolidone:
Assessment: May cause respiratory irritation.

STOT - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Components:

Fipronil (ISO):

Exposure routes: Ingestion
Target Organs: Central nervous system, Kidney
Assessment: Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

2,6-Di-tert-butyl-p-cresol:
Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Repeated dose toxicity

Components:

2-(2-Butoxyethoxy)ethanol:

Species: Rat
NOAEL: 250 mg/kg
LOAEL: 1,000 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Method: OECD Test Guideline 408

Species: Rat
NOAEL: >= 0.094 mg/l
Application Route: Inhalation (vapour)
Exposure time: 90 Days
Method: OECD Test Guideline 413

Species: Rat
NOAEL: >= 2,000 mg/kg
Application Route: Skin contact
Exposure time: 90 Days
**SAFETY DATA SHEET**

according to GB/T 16483 and GB/T 17519

**Fluazuron / Fipronil Formulation**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>2020/03/23</td>
<td>557846-00009</td>
<td>2019/09/13</td>
<td>2016/03/15</td>
</tr>
</tbody>
</table>

### N-Methyl-2-pyrrolidone:
- **Species**: Rat, male
- **NOAEL**: 169 mg/kg
- **LOAEL**: 433 mg/kg
- **Application Route**: Ingestion
- **Exposure time**: 90 Days
- **Method**: OECD Test Guideline 408

### Ethanol:
- **Species**: Rat
- **NOAEL**: 1,280 mg/kg
- **LOAEL**: 3,156 mg/kg
- **Application Route**: Ingestion
- **Exposure time**: 90 Days

### Fluazuron:
- **Species**: Rat
- **LOAEL**: 240 mg/kg
- **Application Route**: Ingestion
- **Exposure time**: 13 Weeks
- **Target Organs**: Liver, Thyroid, Pituitary gland

### Fipronil (ISO):
- **Species**: Rabbit
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Fluazuron / Fipronil Formulation

Version 4.0  Revision Date: 2020/03/23  SDS Number: 557846-00009  Date of last issue: 2019/09/13

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>5 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>10 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Exposure time</td>
<td>21 Days</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 410</td>
</tr>
</tbody>
</table>

Species: Rat, male

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>0.059 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>0.019 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>89 Weeks</td>
</tr>
</tbody>
</table>

2,6-Di-tert-butyl-p-cresol:

Species: Rat

<p>| | |</p>
<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>25 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>22 Months</td>
</tr>
</tbody>
</table>

tert-butyl-4-methoxyphenol:

Species: Rat

<p>| | |</p>
<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>63,000 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>6 Weeks</td>
</tr>
</tbody>
</table>

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

Components:

N-Methyl-2-pyrrolidone:

Skin contact: Symptoms: Skin irritation

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2-(2-Butoxyethoxy)ethanol:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50 (Lepomis macrochirus (Bluegill sunfish)): 1,300 mg/l Exposure time: 96 h</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Daphnia magna (Water flea)): &gt; 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>ErC50 (Desmodesmus subspicatus (green algae)): &gt; 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 201</td>
</tr>
</tbody>
</table>
### Fluazuron / Fipronil Formulation

#### NOEC (Desmodesmus subspicatus (green algae)):

- Exposure time: 96 h
- Method: OECD Test Guideline 201

#### Toxicity to microorganisms:

- EC10: > 1,995 mg/l
- Exposure time: 30 min

### N-Methyl-2-pyrrolidone:

#### Toxicity to fish

- LC50 (Oncorhynchus mykiss (rainbow trout)): > 500 mg/l
- Exposure time: 96 h

#### Toxicity to daphnia and other aquatic invertebrates

- EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
- Exposure time: 24 h
- Method: DIN 38412

#### Toxicity to algae/aquatic plants

- ErC50 (Desmodesmus subspicatus (green algae)): 600.5 mg/l
- Exposure time: 72 h
- EC10 (Desmodesmus subspicatus (green algae)): 92.6 mg/l
- Exposure time: 72 h

#### Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

- NOEC (Daphnia magna (Water flea)): 12.5 mg/l
- Exposure time: 21 d
- Method: OECD Test Guideline 211

#### Toxicity to microorganisms

- EC50: > 600 mg/l
- Exposure time: 30 min
- Method: ISO 8192

### Ethanol:

#### Toxicity to fish

- LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l
- Exposure time: 96 h

#### Toxicity to daphnia and other aquatic invertebrates

- EC50 (Ceriodaphnia (water flea)): > 1,000 mg/l
- Exposure time: 48 h

#### Toxicity to algae/aquatic plants

- ErC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l
- Exposure time: 72 h
- EC10 (Chlorella vulgaris (Fresh water algae)): 11.5 mg/l
- Exposure time: 72 h

#### Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

- NOEC (Daphnia magna (Water flea)): 9.6 mg/l
- Exposure time: 9 d

#### Toxicity to microorganisms

- EC50 (Pseudomonas putida): 6,500 mg/l
- Exposure time: 16 h

### Fluazuron:

#### Toxicity to fish

- LC50 (Cyprinus carpio (Carp)): > 9.1 mg/l
Fluazuron / Fipronil Formulation

Toxicity to daphnia and other aquatic invertebrates

Exposure time: 96 h
EC50 (Daphnia sp. (water flea)): 0.0006 mg/l

Toxicity to algae/aquatic plants

NOEC (Raphidocelis subcapitata (freshwater green alga)): 27.9 mg/l
Exposure time: 72 h

M-Factor (Acute aquatic toxicity):
1,000

M-Factor (Chronic aquatic toxicity):
1,000

Fipronil (ISO):

Toxicity to fish

LC50 (Lepomis macrochirus (Bluegill sunfish)): 85.2 µg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates

LC50 (Mysidopsis bahia (opossum shrimp)): 0.14 µg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants

EC50 (Desmodesmus subspicatus (green algae)): 68 µg/l
Exposure time: 96 h
Method: OECD Test Guideline 201
NOEC (Desmodesmus subspicatus (green algae)): 40 µg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity):
1,000

Toxicity to fish (Chronic toxicity)

NOEC (Cyprinodon variegatus (sheepshead minnow)): 2.9 µg/l
Exposure time: 35 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

NOEC (Mysidopsis bahia (opossum shrimp)): 0.0077 µg/l
Exposure time: 28 d

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

Toxicity to microorganisms

EC50: > 1,000 mg/l
Exposure time: 3 h

2,6-Di-tert-butyl-p-cresol:

Toxicity to fish

LC50 (Danio rerio (zebra fish)): > 0.57 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.48 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.24 mg/l
Fluazuron / Fipronil Formulation

<table>
<thead>
<tr>
<th>Exposure time: 72 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td>NOEC (Pseudokirchneriella subcapitata (green algae)): 0.24 mg/l</td>
</tr>
<tr>
<td>Exposure time: 72 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M-Factor (Acute aquatic toxicity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No EEC (Oryzias latipes (Japanese medaka)): 0.053 mg/l</td>
</tr>
<tr>
<td>Exposure time: 30 d</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 210</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M-Factor (Chronic aquatic toxicity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOEC (Daphnia magna (Water flea)): 0.316 mg/l</td>
</tr>
<tr>
<td>Exposure time: 21 d</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 209</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>toxicity to microorganisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50: &gt; 10,000 mg/l</td>
</tr>
<tr>
<td>Exposure time: 3 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 209</td>
</tr>
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<table>
<thead>
<tr>
<th>tert-butyl-4-methoxyphenol</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50: 5.8 mg/l</td>
</tr>
<tr>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 203</td>
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</table>

<table>
<thead>
<tr>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 (Daphnia magna (Water flea)): 2.3 mg/l</td>
</tr>
<tr>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 202</td>
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</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 (Pseudokirchneriella subcapitata (green algae)): 5.2 mg/l</td>
</tr>
<tr>
<td>Exposure time: 72 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
</tr>
</tbody>
</table>

Persistence and degradability

Components:

2-(2-Butoxyethoxy)ethanol:

Biodegradability: Result: Readily biodegradable.
Biodegradation: 85 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

N-Methyl-2-pyrrolidone:

Biodegradability: Result: Readily biodegradable.
Biodegradation: 73 %
Exposure time: 28 d
Method: OECD Test Guideline 301C
**Fluazuron / Fipronil Formulation**

<table>
<thead>
<tr>
<th>Ethanol:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradability</td>
<td>Result: Readily biodegradable.</td>
</tr>
<tr>
<td>Biodegradation</td>
<td>84 %</td>
</tr>
<tr>
<td>Exposure time</td>
<td>20 d</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Fipronil (ISO):</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradability</td>
<td>Result: Not readily biodegradable.</td>
</tr>
<tr>
<td>Biodegradation</td>
<td>47 %</td>
</tr>
<tr>
<td>Exposure time</td>
<td>28 d</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 301B</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>2,6-Di-tert-butyl-p-cresol:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Biodegradability</td>
<td>Result: Not readily biodegradable.</td>
</tr>
<tr>
<td>Biodegradation</td>
<td>4.5 %</td>
</tr>
<tr>
<td>Exposure time</td>
<td>28 d</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 301C</td>
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</tbody>
</table>

**Bioaccumulative potential**

**Components:**

<table>
<thead>
<tr>
<th>2-(2-Butoxyethoxy)ethanol:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N-Methyl-2-pyrrolidone:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: -0.46</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 107</td>
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<table>
<thead>
<tr>
<th>Ethanol:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: -0.35</td>
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<table>
<thead>
<tr>
<th>Fluazuron:</th>
<th></th>
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<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 5.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fipronil (ISO):</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Bioaccumulation</td>
<td>Species: Lepomis macrochirus (Bluegill sunfish)</td>
</tr>
<tr>
<td>Bioconcentration factor (BCF)</td>
<td>321</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 4</td>
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</table>

<table>
<thead>
<tr>
<th>2,6-Di-tert-butyl-p-cresol:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Bioaccumulation</td>
<td>Species: Cyprinus carpio (Carp)</td>
</tr>
<tr>
<td>Bioconcentration factor (BCF)</td>
<td>330 - 1,800</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 5.1</td>
</tr>
</tbody>
</table>
tert-butyl-4-methoxyphenol:

Partition coefficient: n-octanol/water : log Pow: 2.8

Mobility in soil
No data available

Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : 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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number : UN 1170
Proper shipping name : ETHANOL SOLUTION
Class : 3
Packing group : III
Labels : 3

IATA-DGR
UN/ID No. : UN 1170
Proper shipping name : Ethanol solution
Class : 3
Packing group : III
Labels : Flammable Liquids
Packing instruction (cargo aircraft) : 366
Packing instruction (passenger aircraft) : 355

IMDG-Code
UN number : UN 1170
Proper shipping name : ETHANOL SOLUTION (Fluazuron, Fipronil (ISO))
Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-D
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

GB 6944/12268
UN number : UN 1170
Proper shipping name : ETHANOL SOLUTION
Class : 3
Packing group : III
Labels : 3

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.

15. REGULATORY INFORMATION

National regulatory information
Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals
Catalogue of Hazardous Chemicals : Listed

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)
No. / Code Chemical name / Category Threshold quantity
W5.4 Flammable liquids 5,000 t

The components of this product are reported in the following inventories:
AICS : not determined
DSL : not determined
IECSC : not determined

16. OTHER INFORMATION

Further information

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.
Date format : yyyy/mm/dd

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)

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

ACGIH / STEL : Short-term exposure limit

AICS - Australian Inventory of Chemical Substances; 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; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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

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