1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product information

Product Name: Tolfenpro™ Insecticide Ear Tag
MSDS Number: 122000012377

Use: Insect-repellent

Company
BAYER HEALTHCARE LLC
Animal Health Division
12707 Shawnee Mission Parkway
(West 63rd)
Shawnee, KS 66216-1846
USA
(800) 633-3796

In case of emergency: (800) 422-9874
Chemtrec: (800) 424-9300
BAYER INFORMATION PHONE:(800) 633-3796
INTERNATIONAL:(703) 527-3887

2. HAZARDS IDENTIFICATION

Emergency Overview

Form: solid

GHS Classification:
Acute toxicity (Oral) : Category 4

GHS Label element:
Hazard pictograms :

Signal word : Warning

Hazard statements : H302 Harmful if swallowed.
Precautionary statements : Prevention:
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.

Response:
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P391 Collect spillage.

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

Other hazards which do not result in classification:
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Weight percent</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>Tolfenpyrad</td>
<td>129558-76-5</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>Titanium oxide</td>
<td>13463-67-7</td>
</tr>
<tr>
<td>7 - 13%</td>
<td>Cellulose microcrystalline</td>
<td>9004-34-6</td>
</tr>
<tr>
<td>15 - 40%</td>
<td>PVC - powder (polymer) / PVC - compound</td>
<td>9002-86-2</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice: Take off all contaminated clothing immediately.

If inhaled: Remove to fresh air. If symptoms persist, call a physician.

In case of skin contact: After contact with skin, wash immediately with plenty of soap and water. If skin reactions occur, contact a physician.

In case of eye contact: In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed: If swallowed, seek medical advice immediately and show this container or label.

Contact Number: Use the Bayer Emergency Number in Section 1
5. FIREFIGHTING MEASURES

Suitable extinguishing media: Any

Specific hazards during firefighting: Fire may cause evolution of: Carbon monoxide (CO) Carbon dioxide (CO2)

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

Further information: Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment.

Methods for cleaning up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

Additional advice: Avoid dust formation.

Further Accidental Release Notes

Avoid dust formation.

7. HANDLING AND STORAGE

Handling:
Avoid dust formation. Only handle product with local exhaust ventilation. Avoid contact with skin, eyes and clothing.

No special protective measures against fire required.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Soybean oil, epoxidized (8013-07-8)

Titanium oxide (13463-67-7)
US. ACGIH Threshold Limit Values
Time Weighted Average (TWA): 10 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
PEL: 15 mg/m3 (Total dust.)
Respiratory protection:
Recommended Filter type: HEPA

Hand protection:
Chemically resistant gloves.

Eye protection:
Safety glasses

Other protective measures:
Wear suitable protective equipment.

Please consult label for end-user requirements.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>solid</td>
</tr>
<tr>
<td>Colour</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Odour</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Density</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Vapour pressure</td>
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</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Flow time</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Surface tension</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Miscibility with water</td>
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</tr>
<tr>
<td>Water solubility</td>
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</tr>
<tr>
<td>pH</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>No applicable information is available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No applicable information is available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Conditions to avoid: no data available

Materials to avoid: Oxidizing agents
Hazardous reactions: no data available

Thermal decomposition:
no data available

Hazardous decomposition products:
Carbon monoxide (CO), Carbon dioxide (CO2)

Oxidizing properties:
No statements available.

Impact Sensitivity:
no data available

Further information: The following applies in general to flammable organic substances and preparations: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

11. TOXICOLOGICAL INFORMATION

Other information on toxicity:
PVC - powder (polymer) / PVC - compound
References to equivocal tumorigenic agent by RTECS criteria.

Other information on toxicity:
Titanium oxide
As with any nuisance dust, long-term exposure to concentrations of dust above the recommended exposure level may overload lung clearance mechanism and cause adverse lung effects.

Acute oral toxicity:
PVC - powder (polymer) / PVC - compound
The substance or mixture has no acute oral toxicity

Cellulose microcrystalline
LD50 rat: > 5,000 mg/kg
The substance or mixture has no acute oral toxicity

Titanium oxide
LD50 rat: > 10,000 mg/kg

Tolfenpyrad
LD50 rat, female: 150 mg/kg
LD50 rat, male: 386 mg/kg
LD50 mouse, female: 107 mg/kg
LD50 mouse, male: 114 mg/kg
Acute inhalation toxicity:
Cellulose microcrystalline
LC50 rat: > 5.05 mg/l, 4 h
The substance or mixture has no acute inhalation toxicity

Titanium oxide
LC50 rat: > 6.8 mg/l, 4 h

Acute dermal toxicity:
Cellulose microcrystalline
LD50 rabbit: > 2,000 mg/kg
The substance or mixture has no acute dermal toxicity

Titanium oxide
LD50 rabbit: > 10,000 mg/kg

Tolfenpyrad
LD50 rat, female: > 3,000 mg/kg
LD50 rat, male: > 2,000 mg/kg

Skin irritation:
Cellulose microcrystalline
rabbit
Result: No skin irritation

Titanium oxide
Result: No skin irritation
TiO2 pigments are not irritant but as with all fine powders can adsorb moisture and natural oils from the surface of the skin during prolonged exposure.

Tolfenpyrad
rabbit
Result: slight irritation

Eye irritation:
Cellulose microcrystalline
rabbit
Result: No eye irritation

Titanium oxide
Result: No eye irritation
possibly mechanical irritation

Tolfenpyrad
rabbit
Result: Mild eye irritation

Sensitisation:
Cellulose microcrystalline
Skin sensitization guinea pig
Result: Did not cause sensitization on laboratory animals.
Genotoxicity in vitro:
Cellulose microcrystalline
Ames test
Result: negative

Tolfenpyrad
Ames test
Result: negative
Method: OECD 471

Genotoxicity in vivo:
Cellulose microcrystalline
mouse
Result: No indication of mutagenic effects.

Carcinogenicity:
Tolfenpyrad
mouse:
Result: Animal testing did not show any carcinogenic effects.

Carcinogenicity:
No Carcinogenic substances as defined by IARC, NTP and/or OSHA

STOT - single exposure:
no data available
STOT - repeated exposure:
no data available

12. ECOLOGICAL INFORMATION

General advice:
Do not allow to enter surface waters or groundwater.

Toxicity to fish:
Cellulose microcrystalline
Acute Fish toxicity: LC50 > 100 mg/l
Test species: Oncorhynchus mykiss (rainbow trout) Duration of test: 96 h

Titanium oxide
Acute Fish toxicity: LC50 240 - 370 mg/l
Test species: Cyprinodon sp. (minnow) Duration of test: 96 h

Tolfenpyrad
Acute Fish toxicity: LC50 0.0029 mg/l
Test species: Cyprinus carpio (Carp) Duration of test: 96 h

Toxicity to daphnia and other aquatic invertebrates:
Cellulose microcrystalline
LC50 > 100 mg/l
Test species: Daphnia magna (Water flea) Duration of test: 48 h
Titanium oxide  
LC50 300 - 400 mg/l 
Test species: Mysidopsis almyra (Opposum shrimp)  Duration of test: 96 h

Tolfenpyrad  
EC50 0.001 mg/l  
Test species: Daphnia magna (Water flea)  Duration of test: 48 h

**Toxicity to algae:**  
Cellulose microcrystalline  
EC50 > 100 mg/l  
Duration of test: 96 h

NOEC 12.5 mg/l  
Duration of test: 96 h

**Biodegradability:**  
PVC - powder (polymer) / PVC - compound  
Not readily biodegradable.

Cellulose microcrystalline  
inherently degradable

Titanium oxide  

Pigments are practically not biodegradable.

**Bioaccumulation:**  
Titanium oxide

Bioaccumulation is unlikely.

13. **DISPOSAL CONSIDERATIONS**

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

14. **TRANSPORT INFORMATION**

**Land transport (CFR)**  
non-regulated

**US Sea transport (IMDG)**
15. REGULATORY INFORMATION

Other regulations: No statements available.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)
Components
None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required
Components
None

US. EPA CERCLA Hazardous Substances (40 CFR 302) Components
None

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists

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California Prop. 65

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

OSHA Hazcom Standard Rating Hazardous

16. OTHER INFORMATION

Further information

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and
may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.