MATERIAL SAFETY DATA SHEET

Revision Date: 2017-01-01

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

Product name: Flutamide
Supplier: BINBO BIOLOGICAL CO., LTD
FENGCHENG ONE ROAD
Xi’an
China
Tel: +86-13488214511

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH Exposure Limits</th>
<th>OSHA Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flutamide</td>
<td>None</td>
<td>None</td>
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</table>

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: May cause skin irritation and/or dermatitis

Principle routes of exposure: Skin
Inhalation: May cause irritation of respiratory tract
Ingestion: May be harmful if swallowed
Skin contact: May cause allergic skin reaction
Eye contact: Avoid contact with eyes

Statements of hazard MAY CAUSE ALLERGIC SKIN REACTION.

Statements of Spill of Leak Label Eliminate all ignition sources. Absorb and/or contain spill with inert materials (e.g., sand, vermiculite). Then place in appropriate container. For large spills, use water spray to disperse vapors, flush spill area. Prevent runoff from entering waterways or sewers.

4. FIRST AID MEASURES
General advice: In the case of accident or if you fell unwell, seek medical advice immediately (show the label where possible). Move to fresh air, call a physician immediately.

Inhalation: Rinse immediately with plenty of water and seek medical advice. Do not induce vomiting without medical advice.

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

Ingestion: None known

Eye contact: No information available

Protection of first – aiders: None known

Medical conditions aggravated by exposure: None known

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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use dry chemical, CO2, water spray or "alcohol" foam

Specific hazards: Burning produces irritant fumes.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Flash point: Not determined

Autoignition temperature: Not determined

NFPA rating:
- Health: 1
- Flammability: 1
- Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment.

Environmental precautions: Prevent product from entering drains.

Methods for cleaning up: Sweep up and shovel into suitable containers for disposal

7. HANDLING AND STORAGE
Storage:
Room temperature
Handling: Use only in area provided with appropriate exhaust ventilation.
Safe handling advice: Wear personal protective equipment.
Incompatible products: Oxidising and spontaneously flammable products

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures: Ensure adequate ventilation.
Respiratory protection: Breathing apparatus only if aerosol or dust is formed.
Skin and body protection: Usual safety precautions while handling the product will provide adequate protection against this potential effect.
Eye protection: Safety glasses with side-shields
Hand protection: PVC or other plastic material gloves
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Melting point/range: No Data available at this time.
Boiling point/range: No Data available at this time.
Density: No data available
Vapor pressure: No data available
Evaporation rate: No data available
Vapor density: No data available
Solubility (in water): No data available
Flash point: Not determined
Autoignition temperature: Not determined

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10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.
Polymerization: None under normal processing.
Hazardous decomposition products: Thermal decomposition can lead to release of irritating gases and vapours such as carbon oxides.
Materials to avoid: Strong oxidising agents.

Conditions to avoid: Exposure to air or moisture over prolonged periods.

11. TOXICOLOGICAL INFORMATION

Product information

Acute toxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>RTECS Number:</th>
<th>Selected LD50s and LC50s</th>
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<tbody>
<tr>
<td>Flutamide</td>
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Chronic toxicity: Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness.

Local effects: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Specific effects: May include moderate to severe erythema (redness) and moderate edema (raised skin), nausea, vomiting, headache.

Primary irritation: No data is available on the product itself.

Carcinogenic effects: No data is available on the product itself.

Mutagenic effects: No data is available on the product itself.

Reproductive toxicity: No data is available on the product itself.

12. ECOLOGICAL INFORMATION

Mobility: No data available

Bioaccumulation: No data available

Ecotoxicity effects: No data available

Aquatic toxicity: May cause long-term adverse effects in the aquatic environment.

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. DOT –Appendix B – Marine Pollutants</th>
<th>U.S. DOT –Appendix B – Severe Marine Pollutants</th>
<th>United Kingdom – The red List:</th>
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<tbody>
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<tr>
<th>Components</th>
<th>Germany VCI (WGK)</th>
<th>World Health Organization</th>
<th>Ecotoxicity – Fish Species</th>
</tr>
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### 13. DISPOSAL CONSIDERATIONS

**Waste from residues/unused products:** Waste disposal must be in accordance with appropriate Federal, State and local regulations. This product, if unaltered by use, may be disposed of treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous.

**Contaminated packaging:** Do not re-use empty containers.

### 14. TRANSPORT INFORMATION

**UN/Id No:** Not regulated

**DOT**
- **Proper shipping name:** Not Regulated

**TGD(Canada)**
- **WHMIS hazard class:** Non - controlled

**IMDG/IMO**
- **IMDG – Hazard Classifications** Not Applicable

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<thead>
<tr>
<th>Components</th>
<th>U.S. DOT – Appendix A</th>
<th>Table 1 – Reportable Quantities</th>
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### 15. REGULATORY INFORMATION

**International Inventories**

<table>
<thead>
<tr>
<th>Components</th>
<th>Inventory – United States TSCA – Sect.8(b)</th>
<th>Canada DSL Inventory List -</th>
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**U.S. regulations:**

<table>
<thead>
<tr>
<th>Components</th>
<th>California proposition 65 - Right to Know List:</th>
<th>Massachusetts</th>
<th>New Jersey Right to Know List:</th>
<th>Pennsylvania Right to Know List:</th>
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<tr>
<th>Components</th>
<th>SSARA 313 Emission reporting/Toxic Release of Chemicals</th>
<th>CERCLA/SARA Section 302 NTP: Extremely Haz</th>
<th>IARC:</th>
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### 16. OTHER INFORMATION

**Prepared by:** Health & Safety

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End of safety data sheet