



## MATERIAL SAFETY DATA SHEET

### Manufacturer/information service:

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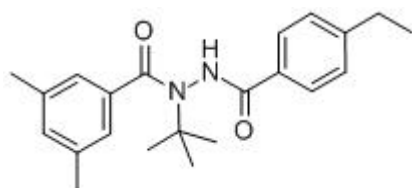
### 1. Chemical Product Identification

Common Name: Tebufenozide 95% TC

Molecular Formula:  $C_{22}H_{28}N_2O_2$

Molecular Weight: 352.47

Structural Formula:



Chemical Name: N-tert-butyl-N'-(4-ethylbenzoyl)-3,5-dimethylbenzohydrazide

Form: Powder

Color: Off-white

CAS No.: 112410-23-8

### 2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Tebufenozide	112410-23-8	95
Other ingredients	---	5

### 3. Hazards Identification

Hazard statement(s)

H373: Causes damage to organs through prolonged or repeated exposure.

H400: Very toxic to aquatic life.



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H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P273: Avoid release to the environment.

P314: Get medical advice/attention if you feel unwell.

P391: Collect spillage.

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

Supplemental Hazard Statements: none.

#### **4. First Aid Measures**

**Skin contact:** Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas immediately with soap and water. Do not rub skin. Wash contaminated clothing before re-use. If a large area is affected or if irritation persists seek medical assistance.

**Eye contact:** Flush eyes immediately and continue for at least 15 minutes. May cause slight irritation. Seek medical assistance immediately should irritation persist.

**Ingestion:** Do NOT induce vomiting if swallowed unless advised otherwise by a physician. Never give anything by mouth to a person who is unconscious or having convulsions. Wash mouth with water and seek medical attention immediately. For advice, contact the National Poisons Centre or seek medical attention immediately.

**Inhalation:** Remove patient to fresh air. If breathing is shallow or has stopped, ensure airway is clear and apply resuscitation. Seek medical assistance.

**Further Information: Treatment:** No known specific antidote. Treat symptomatically and supportively (decontamination, vital functions).

#### **5. Fire-Fighting Measures**

**Unusual Hazards:** Pesticide particulates can become airborne.

**Extinguishing Agents:** Use the following extinguishing media when fighting fires involving this material: carbon dioxide - dry chemical - water spray.

**Personal Protective Equipment:** Wear self-contained breathing apparatus (pressure-demand MSHA/NIOSH approved or equivalent) and full protective gear.

**Special Procedures:** Contain run-off. Remain upwind. Avoid breathing smoke. Use water spray to cool containers exposed to fire.



## **6. Accidental Release Measures**

**Personal Protection:** Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations. If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow. Remove all contaminated clothing promptly. Wash all exposed skin areas with soap and water immediately after exposure. Thoroughly launder clothing before reuse. Do not take clothing home to be laundered.

**Procedures:** Floor may be slippery; use care to avoid falling. Contain spills immediately with inert materials (e.g. sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal. **CAUTION:** Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

## **7. Handling And Storage**

**Handling:** Avoid skin and eye contact and inhalation of spray mist or fumes. Ensure adequate ventilation. Cleaning water should be disposed of in appropriate manner. Wash hands and exposed after handling the product and before breaks. Do not eat, drink or smoke during use. Wash contaminated clothing before re-use.

**Storage:** Store in the original, unopened container in a cool, dry, wellventilated place, out of direct sunlight and away from pharmaceuticals, cosmetics, fertilizers, stockfeed, foodstuffs or children.

## **8. Exposure Controls/Personal Protection**

**Respiratory protection:** Wear respiratory protection if ventilation is inadequate. Use particle filter with medium efficiency for solid and liquid particles.

**Eye protection:** Wear safety goggles with side-shields. Chemical goggles are recommended where contact with the liquid is likely to occur.

**Hand protection:** Wear suitable chemical resistant safety gloves (e.g. nitrile rubber (.4mm)).

**Other protective equipment:** Body protection (chemical protection suit, boots) must be chosen depending on activity and possible exposure.

**General Safety & Hygiene measures:** Keep away from food, drink and animal feedstuffs. No eating, drinking or smoking during use and wash hands and face before breaks and after work.



## **9. Physical and Chemical Properties**

Appearance: Off-white powder

pH value: 5.0-8.0

Melting point: 191 °C

Boiling point: Decomposes before boiling

Bulk density: 1.03 g/ml

Partition Coefficient: log P = 4.25 (at pH 7, 20 °C)

Vapour pressure:  $1.56 \times 10^{-4}$  mPa (25 °C)

Solubility: 0.83 mg/l in water (20 °C); In organic solvents: 74.8 g/l in acetone, 130 g/l in methanol, 23.8 g/l in ethyl acetate, 3.2 g/l in toluene (all at 20 °C).

## **10. Stability and Reactivity**

Stability: Stable under normal storage conditions.

Incompatibility: Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Thermal decomposition may yield the following: nitrogen oxides, carbon monoxide, carbon dioxide, isobutylene.

Hazardous Polymerization: Not known to occur.

## **11. Toxicological Information**

Acute oral LD50 for rats: >5000 a.i.mg/kg

Acute dermal LD50 for rats: >2000 a.i.mg/kg

Acute inhalation toxicity LC50 (4 h) for rats: >4.3 a.i.mg/L

Skin irritation: Non-irritating to skin (rabbits)

Eye irritation: Non-irritating to eyes (rabbits)

Skin sensitization for guinea pig: Non-sensitizing.

## **12. Ecological And Ecotoxicological Information**

Effect on birds: Acute oral LD50 (8 d) for Bobwhite quail is >2150 a.i.mg/kg.

Effect on fish: Acute LC50 (96 h) for Bluegill sunfish is 3.0 a.i.mg/l.

Effects on aquatic invertebrates: Acute EC50 (48 h) for Daphnia magna is 3.8 a.i.mg/l.

Effects on algae: Acute 72 hour EC50 for Scenedemus subspicatus is 0.23 a.i.mg/l.

Effects on bees: Contact acute 48 hour LD50 is >234 a.i.µg/bee, oral acute 48 hour LD50



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is >100 a.i.µg/bee.

Effects on earthworms: Acute 14 day LC50 is >1000 a.i.mg/kg.

### **13. Disposal Considerations**

Disposal of wastes: Disposal should be in accordance with applicable regional, national and local laws and regulations. Should not be released into the environment.

Contaminated packaging: Do not reuse container.

### **14. Transport Information**

Not applicable.

### **15. Regulatory Information**

Not applicable.

### **16. Other Information**

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.