



SHANGHAI BOSMAN INDUSTRIAL CO., LTD.

Add: Room1804, No.1611, North Sichuan Road, Hongkou District, Shanghai, P.R. China.

Tel: +86 21 63065878 | **Fax:** +86 21 63065878 | **E-mail:** info@bosmangroup.com

Website: www.bosmanagrochem.net

Version: 1.0 Issue date: Oct. 1, 2023

MATERIAL SAFETY DATA SHEET OF BROMADIOLONE 95% TC

1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Supplier: Shanghai Bosman Industrial Co., Ltd.

Street address: No.1611, North Sichuan Road, Hongkou District, Shanghai, P.R. China.

FAX: +86 21 63065878

TEL: +86 21 63065878

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formulation Type: Technical material (TC)

Active Ingredients: Bromadiolone

IUPAC name: 3-[3-(4'-bromobiphenyl-4-yl)-3-hydroxy-1-phenylpropyl]-4-hydroxycoumarin

INGREDIENT	CAS NO	PROPORTION
Bromadiolone	28772-56-7	≥ 95%
others	Not hazardous	Up to 100%

Other ingredients determined not to be hazardous

3. HAZARDS IDENTIFICATION

Main Hazard: Not classified as hazardous due to low concentrations of bromadiolone present in the formulation which acts as a deterrent to humans. However, prolonged and/or repeated exposure to small amounts of product can produce cumulative toxicity. Normal safety precautions for handling chemicals must be observed and the label directions adhered to.

Eye contact: May be mildly irritating to the eye on contact, causing redness, pain and blurred vision.

Skin contact: Bromadiolone is a not a skin irritant but is absorbed through intact skin. However, poisoning through prolonged skin contact is unlikely because of the nature of the formulation.

Ingestion: Large quantities would have to be ingested to produce a toxic effect. Accumulation of the toxin in the body is possible. Nausea and vomiting may occur soon after ingestion, but several hours/days may elapse before typical features of anticoagulant poisoning become evident;

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symptoms may include increased tendency to bleed, bruising, nose and gum bleeds, pallor, blood in the urine and faeces, haemorrhage into and around elbow and knee joints.

Inhalation: Due to the nature of this product, inhalation is not considered to be a relevant route of exposure.

Vapour inhalation: Decomposes in a fire to emit toxic fumes.

4. FIRST AID MEASURES

Emergency overview: This material may reduce the clotting ability of the blood and cause bleeding. Symptoms of toxicity include lethargy, loss of appetite, reduced clotting ability of blood, and bleeding. Have the product label with you when obtaining treatment advice.

If swallowed: Call a poison control center or doctor. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor.

If inhaled: Move person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration and call poison control or doctor.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor.

If on skin or clothing: Take off contaminated clothing. Rinse skin with plenty of cool water for 15-20 minutes. Call a poison control center or doctor.

Note to Physician or Veterinarian: Contains anticoagulant ingredient. For humans or animals ingesting bait and/or showing obvious poisoning symptoms (bleeding or prolonged prothrombin times), give Vitamin K1 intramuscularly or orally. In severe cases, blood transfusions may be needed

5. FIRE FIGHTING MEASURES

Extinguishing media: Use media suitable for the surrounding fire Specific fire or explosion hazards: None known

Special cautions for firefighters: Wear self-contained breathing apparatus (full facepiece) & full protective clothing. Contain runoff to prevent pollution.

6. ACCIDENT RELEASE MEASURES

Precautions, PPE and Procedures: Wearing PPE as specified in Section 8, isolate and contain

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spill. Limit access to spill area to necessary personnel. Do not allow spilled material to enter sewers, streams or other waters.

Methods and materials: Scoop up spilled material and place in a closed, labeled container for use according to label instructions or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Read the entire product label before using this rodenticide.

Conditions for safe storage: Store in original container in a cool, dry area out of reach of children, pets and domestic animals. Do not contaminate water, food or feed. Keep container tightly closed. Do not remove or destroy the product label.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Established exposure limits: Not applicable

Appropriate engineering controls: Special ventilation is not required for the normal handling and use of this product when following label instructions.

Individual protection measures: Wear long pants, shoes, socks and waterproof gloves when handling this product. Follow manufacturer's instructions for cleaning/maintaining PPE, or else wash with detergent and hot water. Keep and wash PPE separately from other laundry. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. Wash hands thoroughly after applying bait and before eating, drinking, chewing gum, using tobacco or using the toilet, and change into clean clothing.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance : White or off-white powder

Odour: odorless

Melting Point: No distinct melting point

Solubility: Solved in chloroform, slightly slove in acetone, benzene, ethanol, acetic acid ethanol, glycerin, polyethylene glycol, non-slove in water and petroleum ether

Flammability: Not flammable.

Explosive properties: None

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10. STABILITY AND REACTIVITY

Reactivity: Not reactive, not sensitive to shock or static discharge

Chemical stability:

Stable Hazardous reactions: None

Incompatible materials: None

Conditions to avoid: None

Hazardous decomposition products: Oxides of carbon

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Acute oral toxicity: LD₅₀ for rats 1.31, mice 1.75, rabbits 1.00, dogs >10.0, cats >25.0 mg/kg.

Acute dermal toxicity: acute percutaneous LD₅₀ for rabbits 1.71, rats 23.31 mg/kg.

Acute inhalation toxicity: LC₅₀ for rats <0.02 mg/l.

Subchronic toxicity:

NOEL Oral NOAEL (90 d) for rabbits 0.5 µg/kg daily;

Chronic toxicity:

NOAEL (reproductive performance and developmental toxicity) (2 y) for rats 5 µg/kg daily.

Other toxicity:

Not mutagenic, not clastogenic; teratogenic dose not found (up to 8 µg/kg).

12. ECOLOGICAL INFORMATION

Birds Acute oral LD₅₀ for Japanese quail 134 mg/kg b.w.

Fish LC₅₀ (96 h) for rainbow trout 2.89 mg/l; NOEC (96 h) 1.78 mg/l.

Daphnia EC₅₀ (48 h) 5.79 mg/l; NOEC (48 h) 1.25 mg/l.

Algae ErC₅₀ (72 h) 1.14 mg/l; EyC₅₀ (72 h) 0.66 mg/l.

Bees Not hazardous to bees when used as directed.

Worms LC₅₀ for earthworms >1054 mg/kg dry weight.

13. DISPOSAL CONSIDERATION

Disposal: Residue may be disposed of in accordance with local/national regulations.

Disposal of packaging: Empty containers to be disposed of in a responsible manner. Do not re-use for any other purpose.

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14. TRANSPORT INFORMATION

UN No.: 2811

Classification: 6.1

Packaging group: I

Description of the goods: Toxic solid, organic, n.o.s.

15. REGULATORY INFORMATION

Classification: T+: Very toxic; T: Toxic; N: Dangerous to the environment

Risk phrases:

R27/28 Very toxic: By skin contact and if swallowed.

R48/24/25 Toxic: Danger of serious damage to health by prolonged exposure or skin contact and if swallowed.

R50/53 Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Safety phrases:

S 2 Keep out of the reach of children.

S13 Keep away from food, drink and animal feed

S20/21 When using do not eat, drink or smoke.

16. OTHER INFORMATION

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This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of the how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made the user should contact the company.

--END OF MSDS --