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Version: 1.0 Issue date: Oct. 10, 2023

MATERIAL SAFETY DATA SHEET OF

BRODIFACOUM 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

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2. COMPOSITION/INFORMATION ON INGREDIENTS

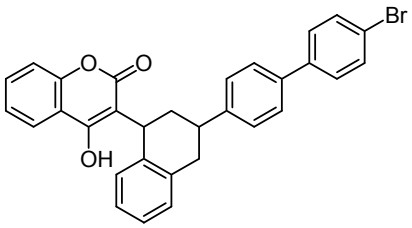
Formulation Type: Technical material (TC)

Active Ingredients: Brodifacoum

IUPAC name: 3-[3-(4'-bromobiphenyl-4-yl)-1,2,3,4-tetrahydro-1-naphthyl]-4-hydroxycoumarin

CAS NO. : 56073-10-0

Structural Formula:



Other ingredients determined not to be hazardous

INGREDIENT	CAS NO	PROPORTION
Brodifacoum	*56073-10-0*	≥ 95%
others	Not hazardous	Up to 100%

3. HAZARDS INDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity (Category 1), H310

Acute toxicity (Category 2), H300

Specific target organ toxicity - repeated exposure (Category 1), H372

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word Danger

Hazard statement(s)

H372 Causes damage to organs through prolonged or repeated exposure.

H300 Fatal if swallowed.

H310 Fatal in contact with skin.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P273 Avoid release to the environment.

P314 Get medical advice/ attention if you feel unwell.

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

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Carbon oxides, Hydrogen bromide gas

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENT RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

Eye protection: Eye protection is not normally necessary when this product is being used. However, if in doubt, wear suitable protective glasses or goggles.

Skin protection: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear.

Protective material types: There is no specific recommendation for any particular protective material type.

Respirator: Usually, no respirator is necessary when using this product.

Safety deluge showers should, if practical, be provided near to where this product is being used.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid powder

Odour: NA

pH: 5.0-7.0

Solubility: NA

Flash point: NA

10. STABILITY AND REACTIVITY

Chemical stability: Stable under normal use and storage conditions.

Conditions to avoid: None known.

Hazardous decomposition: Can decompose at high temperatures forming toxic gases.

Fire decomposition: Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen bromide gas

Incompatible materials: Strong oxidizing agents

Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity: LD_{50} for rat 0.43mg/kg

Acute Dermal Toxicity: LD_{50} for rat 2.33mg/kg

Acute Inhalation Toxicity: LC_{50} (4 h) for male rats 4.86, female rats 3.05 μg/l air.

Eye Irritation: Slightly irritant (rabbit).

Skin Irritation: No irritant (rabbit).

Skin Sensitization: A moderate skin sensitiser (guinea pigs).

12. ECOLOGICAL INFORMATION

The following information is for the active ingredient, brodifacoum.

Birds Brodifacoum is highly toxic to birds and wildlife. Acute oral LD_{50} for Japanese quail 11.6, chickens 4.5, mallard ducks 0.31 mg/kg. Dietary LC_{50} (40 d) for mallard ducks 2.7, bobwhite quail 0.8 ppm.

Fish The active ingredient brodifacoum is very toxic to aquatic organisms. LC_{50} (96 h): for bluegill sunfish 0.165, rainbow trout 0.051 mg/l.

Daphnia LC_{50} (48 h): 0.34 mg/l.

Environmental fate: Brodifacoum degrades slowly in soils under aerobic and flooded conditions. The half life in soil is greater than 12 weeks. It is unlikely to leach to groundwater.

13. DISPOSAL CONSIDERATION

Do not reuse product containers. Do not contaminate waterways by cleaning of equipment or by disposal of wastes. Untreated effluent should not be discharged where it will drain into lakes, streams, or ponds. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

14. TRANSPORT INFORMATION

UN Number: 2811

Hazard class: 6.1

Packing group: I

Proper shipping name:TOXIC SOLID, ORGANIC, N.O.S. (Brodifacoum)

15. REGULATORY INFORMATION

Follow all local and international laws and regulations.

16. OTHER INFORMATION

Version: 1.0

Issue date: Oct. 10, 2023

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 --