

SAFETY DATA SHEET | BRODIFACOUM TECHNICAL MATERIAL GRADE

Date: Rev. AUG 2020

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

- 1.1 Identification of the substance: Brodifacoum Technical Material Grade
- 1.2 Use of the substance: The substance is used, previous treatment with alkali and dilution, as raw material in the formulation of rodenticide baits.
- 1.3 Manufacturer: Siyang Rodenticide Factory
No.3 Beijing East Road, Eastern of Siyang Industrial Zone, Jiangsu Province. P.R. China, 223700.
- 1.4 Emergency telephone: +86 527 85377667

2. COMPOSITION




2.1 Technical grade of coumarin derivative:

Brodifacoum 3-[3-(4'-bromobiphenyl-4-yl)-1,2,3,4-tetrahydro-1-naphthyl]-4-hydroxycoumarin
N. CAS 56073-10-0 EC Number: 259-980-5

2.2 GHS Classifications:

Classifications below according to Regulation (EC) No 1272/2008 on classification, labeling and Packaging of substances and mixtures (CLP).

Classification		Labelling	
Category Code	Hazard Statement Code		Pictograms
Acute Tox. 2 *	H300	Fatal if swallowed (Dgr , Acute toxicity, oral)	GHS06 Dgr
Acute Tox. 1	H310	Fatal in contact with skin (Dgr , Acute toxicity, dermal)	
STOT RE 1	H372	Causes damage to organs through prolonged or repeated exposure (Dgr , Specific target organ toxicity, repeated exposure)	
Aquatic Acute 1	H400	Very toxic to aquatic life (Warning , Hazardous to the aquatic environment, acute hazard)	
Aquatic Chronic 1	H410	Very toxic to aquatic life with long lasting effects (Warning , Hazardous to the aquatic environment, long-term hazard)	

Signal Words	Pictograms		
Danger	 GHS09 Environmental Hazard	 GHS08 Health Hazard	 GHS06 Acute Toxic

SAFETY DATA SHEET | BRODIFACOUM TECHNICAL MATERIAL GRADE

Date: Rev. AUG 2020

2.3 Precautionary Statement Codes: P201, P202, P260, P262, P264, P270, P271, P273, P280, P281, P284, P301+P310, P302+P350, P304+P340, P308+P313, P310, P314, P320, P321, P322, P330, P361, P363, P391, P403+P233, P405, and P501

3. **HAZARD IDENTIFICATION**

In accordance with the EC classification principles, the substance is classified as very toxic if swallowed or in contact with skin.

Health risks: The substance is an anticoagulant and the risk is a possible internal haemorrhage.

Environment risks: Very toxic to aquatic organisms. Soil and water can be polluted.

4. **FIRST-AID MEASURES**

General indications: In any case, it's better to seek medical advice.

- Skin contact: Wash skin immediately with soap and plenty of water.
- Eye contact: Flush eyes immediately with plenty of water for at least 15/20 minutes lifting eye lids. If eyes are still red and there is still nuisance, consult an ophthalmologist.
- Ingestion: Flush mouth with water.
- Inhalation: Bring person to open air.

5. **FIRE-FIGHTING MEASURES**

- Suitable extinguishing media: Halogenated gas, foam and chemical powders, CO₂
- Extinguishing media which must not be used for safety reasons: Water
- Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases: Toxic gas
- Special protective equipment for fire-fighters: Wear self-contained breathing apparatus and protective clothing

6. **ACCIDENTAL-RELEASE MEASURES**

- Personal precautions: Wear suitable gloves, glasses and protective clothing.
- Environmental precautions: Avoid that the product reaches drains, water drains and penetrates into the soil. If waters or drains are polluted, inform immediately the competent Authorities.
- Methods for cleaning up: Pick up accurately with adsorbent material, don't wash with water.

7. **HANDLING AND STORAGE**

7.1 Handling: Use all the individual precautions provided to avoid

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Date: Rev. AUG 2020

contact.

7.2 Storage: Keep container tightly closed in cool and dry places, far from unauthorized people and far from foods.

7.3 Specific uses: ---

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Limit values for the exposition not being available it is advisable to follow these precautions:

- Respiratory protection: Necessary in case of aerosol / dust
- Hand protection: Gloves for chemical products. Periodic substitution.
- Eye protection: Goggles for chemical products.
- Skin protection: Protective clothes. Periodic substitution.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 General Information**

Physical state: powder
 Colour: white to off-white
 Odour: not perceptible

9.2 Important health, safety and the environmental information

pH: 4.0-8.0
 Melting point: 232 °C (Decomp) (98.7 % purity)
 Flash point: 343.5 °C
 Flammability: ---
 Explosive properties: ---
 Oxidising properties: ---
 Vapour pressure: 1.1X10⁻¹⁸ mm Hg at 25 °C (est)
 Relative density: 1.39 g/cm³ (20 °C)
 Solubility:
 - water solubility: 0,24 mg/l 20 °C (pH 7,4)
 - fat solubility: soluble in various organic solvents
 Partition coefficient: n-octanol/water: log Pow = 8,5 (est)
 Viscosity: ---
 Vapour density: ---
 Evaporation rate: ---

10. STABILITY AND REACTIVITY

- 10.1 Conditions to avoid: Exposure to high temperatures
- 10.2 Materials to avoid: Strong oxidizing agents
- 10.3 Hazardous decomposition products: Thermal decomposition can produce toxic exhalations (carbon oxide)

SAFETY DATA SHEET | BRODIFACOUM TECHNICAL MATERIAL GRADE

Date: Rev. AUG 2020

11. TOXICOLOGICAL INFORMATION

- Oral toxicity: LD₅₀ acute oral rat of active ingredient 0,3 mg/kg (WHO)
LD₅₀ acute oral dogs 0,25-1,0 mg/kg
- Acute dermal toxicity: Acute percutaneous LD₅₀ for rabbits 0.25-0.63 mg/kg.
- Inhalation toxicity: Not foreseen
- Harmful effects: The substance has anticoagulant effects and may cause internal haemorrhages, even delayed

12. ECOLOGICAL INFORMATION

Toxic effects on fish, plankton and other organisms. Limited risk for the waters.

12.1 Ecotoxicity

- Fish: At the dosage of 10 mg/l, during the 96 hours of observation, no symptom of toxicity has appeared and no death has occurred
- Algae: At the dosage of 10 mg/l there is no difference in the growing of the algae.
- Daphnia: Cl₅₀ > 10 mg/l

12.2 Mobility

Absorption coefficient of the active ingredient is K_{oc} = 912 ; classification: no leaching

12.3 Persistence and degradability

The active ingredient is scarcely degradable

12.4 Bioaccumulative potential

The active ingredient has Log Pow: >4,0

12.5 Other adverse effects

Not available

13. DISPOSAL CONSIDERATIONS

- Disposal: Arrange disposal by incineration or with other approved suitable treatments.
- Container disposal: Elimination or recycling according with the local Authority Regulations

Follow in any case the local Authority Regulations.

14. TRANSPORT INFORMATION

COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC (Brodifacoum TC).

ADR/ IMDG/ IATA DGR Classification:

Proper Shipping Name:

Coumarin Derivative, Pesticides, Solid, Toxic.

Hazard Class:

Class 6.1, Poisonous Material

SAFETY DATA SHEET | BRODIFACOUM TECHNICAL MATERIAL GRADE

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UN Number: 3027
 Packing Group: I
 Label: Extremely hazard

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

Chemical Name	Common Names and Synonyms	CAS Number	EC Number
Brodifacoum	Brodifacoum	56073-10-0	259-980-5
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Not Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Not Listed.
China Directory of Hypertoxic Chemicals 2015			Listed.
China Catalogue of Specially Controlled Hazardous Chemicals 2020			Not Listed.

- To avoid risk to man and the environment, comply with the instructions for use.

16. OTHER INFORMATION

Bibliography: - *The Pesticide Manual* 12th Ed.

- "The WHO recommended classification of pesticide..." WHO/PCS/96.3

Updating: This sheet has been updated according to the regulations in force (see date on the upper right part of each page).

Changes and/or additions to the previous sheet are indicated by the symbol #.

Sheet and safety data in accordance with Directive 2001/58/CE.

The information of this Material Safety Data Sheet is based on our present knowledge and on the EEC regulations. The product must not be used for purposes which are different from the ones specified. It is the user's responsibility to take all the necessary measures in order to follow the local and national regulations.

The present sheet deletes and substitutes all previous editions