

## MATERIAL SAFETY DATA SHEET

### BROWAX 0.005%

**(Brodifacoum 0.005%)**

#### SECTION (1.) IDENTIFICATION OF THE SUBSTANCE

Product Name: Brodifacoum 0.005%

Chemical name:

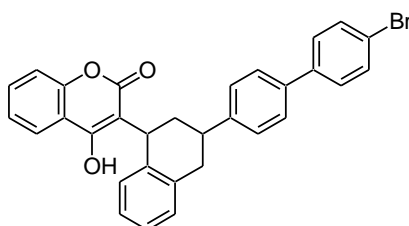
3-[3-(4'-bromobiphenyl-4-yl)-1,2,3,4-tetrahydro-1-naphthyl]-4-hydroxycoumarin

Mol. Formula:  $C_{31}H_{23}BrO_3$

Mol. wt. 523.4

Chemical Class: Coumarin anticoagulant (Rodenticide)

Structure:



#### SECTION( 2.) COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient name	Quantity	Function
<b><u>Active ingredient</u></b> Brodifacoum	0.005%	Active ingredient
<b><u>Inactive ingredients:</u></b> Wax color Sugar Corn oil	74.795% 0.200% 5% 20%	Carrier Dye Attractant Attractant
Total	100%	

## SECTION( 3.) HAZARDS IDENTIFICATION

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### **Emergency Overview:**

May be harmful if swallowed or absorbed through the skin, because this material may reduce the clotting ability of the blood and cause bleeding.

### **Primary Entry Routes:**

Oral (swallowing), dermal (absorption through skin)

### **Acute Effects (Signs and Symptoms of Overexposure):**

- **Eyes:** May cause temporary eye irritation.

- **Skin:**

May be harmful if absorbed through skin. Symptoms of toxicity include lethargy, loss of appetite, reduced blood clotting ability and bleeding.

- **Inhalation:** Due to this product's solid form, inhalation is unlikely.

- **Ingestion:**

May be harmful if swallowed. Symptoms of toxicity include lethargy, loss of appetite, reduced clotting ability of blood, and bleeding.

### **Chronic Effects:**

Prolonged and/or repeated exposure to small amounts of product can produce cumulative toxicity. Symptoms of toxicity include lethargy, loss of appetite, reduced clotting ability of blood, and bleeding.

**Medical Conditions Aggravated by Exposure:** Bleeding disorders

**Target Organs:** Blood

**Carcinogenicity:** Contains no known or suspected carcinogens.

## SECTION (4).FIRST AID MEASURES

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**If Swallowed:** seek medical advice immediately and show this container or label. Do not induce vomiting.

**If in eyes. :**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

**If on skin. :** Take off all contaminated clothing immediately. Wash off immediately with plenty of water. Wash contaminated clothing before re-use.

**If inhaled.:** Remove to fresh air. Keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

**Antidote - :** The specific antidote is Vitamin K1 (Phytomenandione BP).

## SECTION (5.)FIRE FIGHTING MEASURES

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**Recommended fire-extinction means:**  vaporised water  
 CO2  
 dry extinguisher  
 other

**Forbidden fire-extinction means:** none in particular

**Outfit for fire-extinction staff:** suitable outfit.

### **Fire Fighting Instructions:**

Firefighters should wear self-contained breathing apparatus (full facepiece) and full protective clothing. Contain runoff to prevent pollution.

## SECTION (6).ACIDENTAL RELEASE MEASURES

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### **Large Spill/Leak Procedures:**

Isolate and contain spill. Limit access to the spill area to necessary personnel. Do not allow spilled material to enter sewers, streams or other waters. Scoop up spilled material and place in a closed, labeled container for use or disposal.

**Small Spills:** Scoop up material for use according to label instructions.

**Personal precautions:** avoid contact with skin and eyes.

### **Environmental precautions:**

keep away from surface waters; avoid contamination of foodstuffs

### **Cleaning methods:**

collect with mechanical means; re-use the product if possible or store it in tight containers and then dispose of according to instructions given at paragraph 13.

## SECTION (7).HANDLING AND STORAGE

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**Storage conditions:** Store out of the reach of children and pets; away from foodstuffs, feeds and beverages

**Indications for premises:** Store in cool dry premises

**Handling precautions:** Avoid contact with skin and eyes

**Compatible materials:** Plastics, paper, glass, metals

**Incompatible materials:** None

### **Storage Requirements:**

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.

**Handling Precautions:**

Read the entire product label before using this rodenticide.  
Carefully follow all cautions, directions and use restrictions on the label.  
Avoid contact with eyes, skin or clothing.

**SECTION( 8.)EXPOSURE CONTROL/PERSONAL PROTECTION**

**Respiratory protection:** auto-respirator [ ] mask [ ] with filter for:  
**Hand protection:** gloves [x] type: rubber  
**Eye protection:** safety goggles [x] visor [ ] face shield [ ]  
**Skin protection:** apron [ ] boots [ ] complete protective clothes [ ]

**SECTION (9.) PHYSICAL AND CHEMICAL PROPERTIES**

**Physical state** at 20°C (solid)  
**Colour:** blue  
**Odour:** Odourless  
**Particle size:** 25-30  $\mu\text{m}$ <sup>3</sup>  
**Flammability:** non flammable  
**Density:** 1.36  
**Solubility** in water at 19 mg/l (20 °C) (tech.)

**SECTION( 10.)STABILITY AND REACTIVITY**

**Conditions to avoid:** none in particular  
**Dangerous reactions:** with oxidising, strongly acidic and alkaline substances  
**Dangerous decomposition products:**  
none given the low concentration of the a.i.

**SECTION (11.)TOXICOLOGICAL INFORMATION**

**Health hazards:** see paragraph 3

**Acute mammalian toxicity**

Acute toxicity	Animal	LD50 mg/ kg body weight	
		Tech.	Form.
Oral	rat	for male 0.4 mg/kg	8000 mg/kg
Dermal	rabbit	0.25-0.63 mg/kg	5000-12600 mg/kg
Inhalation mg/m <sup>2</sup> /2H		male rats 4.86, female rats 3.95 mg/l air	Male 97200 mg/l air Female 97000 mg/l air

### **Chronic Toxicity:-**

has been extensively tested in mammals and in test-tube systems. No evidence of mutagenic, carcinogenic, neurotoxic, teratogenic or reproductive effects was obtained. Studies in rats and rabbits indicate that this material accumulates in body tissues, principally the liver, and has a very long half-life (150 – 200 days in rats dosed with 0.25 mg/kg). Thus, in humans there is a potential for accumulation of small amounts over a long period of continued exposure leading to toxic levels within the body.

**Carcinogenicity (WHO) :-**

The product is not considered to be a carcinogen

**Teratogenicity (WHO) :-** Not teratogenic

**Mutagenicity (WHO) :-** Not mutagenic

**Delayed neurotoxicity (WHO) :-** N/A

**Hormonal disruption (WHO) :-** N/A

**Reproduction (WHO):-**

Not teratogenic, embryotoxic or fetotoxic in rats or rabbits at doses up to 0.02 mg/kg/day – the dose causing excessive maternal toxicity.

**Acceptable Daily Intake (ADI) :-** 0.01 mg/kg/day

### **SECTION (12.) ECOLOGICAL INFORMATION**

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**Evaluation of effects on the environment:** non-envisaged

**Persistence and degradability:** the product is resistant to abiotic and biotic degradation

#### **aquatic Organisms :**

**Fish:** LC<sub>50</sub> (96 h) for bluegill sunfish 0.165, rainbow trout 0.051 mg/l.

**Daphnia:** LC<sub>50</sub> (48 h) 0.34 mg a.i./l

**honey bees** : N/A

#### **Birds:**

Acute oral LD<sub>50</sub> for Japanese quail 11.6, chickens 4.5, mallard ducks 0.31 mg/kg.

Dietary LC<sub>50</sub> (40 d) for mallard ducks 2.7, bobwhite quail 0.8 ppm.

### **SECTION (13). DISPOSAL INSTRUCTION**

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**Waste classification:** The waste is classified as: special waste.

**Handling of waste:** See paragraphs 7 and 8

**Indications for disposal:** Incinerator, rubbish dump, inertization plant

## **SECTION (14.)TRANSPORT INFORMATION**

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UN: 3077

Class : 9

Shipping Name : Environmentally hazardous substance, solid, n.o.s. (not including waste)

## **SECTION (15). REGULATORY INFORMATION**

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### **CAUTION RECOMMENDATIONS:**

Do not ingest.

Keep out of the reach of children and pets.

Keep away from foodstuffs, feeds and beverages; do not contaminate foodstuffs, feeds, beverages and their receptacles while using the product.

Avoid contact with eyes and skin.

Use suitable protective gloves while handling the product

After handling and in case of contamination wash thoroughly with soap and water.

Hide the baits in those places where people or pets are

After treatment destroy the baits left or store them in a safe place

## **SECTION( 16.) OTHER INFORMATION**

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Special recommendations for usage: it is the responsibility of each operator to secure the protection of workers on workplace and to use the product according to sound working practices, particularly according to the instructions given by the competent health authorities so as to secure health and safety of third parties.

Use according to label instructions.