

MATERIAL SAFETY DATA SHEET
Emergency contact number: +27 11 365-8639



Publication date: Jul'97 Sheet number: SA123/01 Revised on: Revision number:

1) IDENTIFICATION OF THE SUBSTANCE / PREPARATION

Commercial name: **BARAKI® Rat and Mouse Wax Blocks**

Company identification: Bayer (Pty.) Ltd.
Reg. No. 1968/011192/07
P.O. Box 143, Isando 1600
SOUTH AFRICA

Emergency number: +27 11 365 8639 (Tel)
+27 11 365 8640/15 (Fax)

2) COMPOSITION / INFORMATION ON THE INGREDIENTS

DESCRIPTION

Product is chemically a benzothi-in systemic anticoagulant rodenticide based on 0,025 g/kg active difethialone in the form of tapered blue wax blocks, with a centre hole and embossed with the word "BARAKI". Contains a bitter ingredient.

IDENTIFICATION

Active ingredient: Difethialone 0,025 g/kg.

Cas Reg No.: 104653-34-1

Common name: Difethialone.

Chemical family: Hydroxy -4- benzothiopyranone (anticoagulant).

Mode of action: Anticoagulant rodenticide.

Use: An active rodenticide anticoagulant bait in block form for control of the Roof rat, Norway rat and house mouse.

GCPF Code: BB

3) HAZARD IDENTIFICATION OF THE PRODUCT

HAZARDS Coumarin derivative pesticides, solid, toxic, n.o.s.
Contains: Difethialone 0,025 g/kg.

NATURE OF HAZARD Harmful if swallowed, on prolonged skin contact and inhalation.
Significant skin absorption may occur over an extended period.
Symptoms of poisoning develop after several hours or days - an anticoagulant.
Decomposes in a fire to emit irritating fumes of Br⁻ and hydrobromic acid.
The material is toxic to fish, birds and wildlife.

NOTE: For normal handling and use of the product, please consult the product label

ACUTE SYMPTOMS OF HUMAN EXPOSURE

Poison readily absorbed on skin contact and ingestion. Due to the anti-vitamin K properties absorption causes blood coagulation problems inducing haemorrhagic syndrome. Symptoms of poisoning develop after several hours or days.

May cause an abrupt and unusual abdominal pain, increased tendency to bleed, bruising, nose and gum bleeding, bleeding under the skin, pallor, blood in the urine and faeces, haemorrhage into and around elbow and knee joints and multiple spread of haematoma.

4) FIRST AID MEASURES

INHALATION

Acute hazard by inhalation unlikely in normal use of product.
DO NOT apply direct mouth to mouth respiration, use a disposable protective mouthpiece.

SKIN

Immediately remove contaminated clothing, rinse affected skin area with plenty of soap and cool water or shower. DO NOT rub skin hard.

EYE

Immediately wash eyes with copious amounts of clean water for at least 15 minutes, cover with a sterile dressing, contact a doctor immediately.

INGESTION

Keep patient calm and reassured, rinse mouth with water, ensure airway is clear. In case of suspected poisoning, immediately transport patient to doctor or hospital and contact poison centre. Never give anything by mouth to an unconscious person. DO NOT apply direct mouth to mouth respiration, use a disposable protective mouthpiece.

SEEK MEDICAL ADVICE PROMPTLY AND SHOW THIS MSDS TO THE MEDICAL PRACTITIONER.

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NOTE TO PHYSICIAN

The efficacy of treatment must be monitored by measuring the Quick time and treatment must only be stopped when the Quick time has returned and remained to normal values. Administer 5 mg/kg Vitamin K₁ intravenously on the first day followed by another administration of the same dose if the Quick time does not normalise within a few hours of the first injection. Follow up with 5 mg/kg per day orally on the second and following days.

The duration of treatment is generally between 10 and 15 days. In severe cases, small transfusions of matched fresh blood may improve prothrombin levels.

5) FIRE FIGHTING MEASURES

SPECIFIC HAZARDS

Product is classified as a Group II Hazardous Substance under the Hazardous Substance Act, Act 15 of 1973, as amended.

DECOMPOSITION PRODUCTS IN A FIRE

Difethialone decomposes in a fire to emit irritating and toxic fumes of Br⁻ and hydrobromic acid.

FIRE EXTINGUISHER AGENTS

Special dry powder.

PROTECTION for FIRE FIGHTERS

Chemical impermeable gloves, safety goggles or face shield, effective respiratory protection or self-contained breathing apparatus as dictated by circumstances, full length protective clothing and boots.

SPECIFIC METHODS

No unprotected person should be allowed in the vicinity.
Contain run-off with temporary earth barriers.
Evacuation of area may be necessary.
Decontaminate area thoroughly by removing all spillage and contaminated waste.
Material is toxic to fish, birds and wildlife.

6) ACCIDENTAL RELEASE MEASURES

PRECAUTIONS

PERSONAL:

Wear suitable protective clothing; prevent skin contact.
Report incident to emergency personnel in the event of a large spill.

ENVIRONMENTAL:

Prevent contamination of sewers, waterways, low areas, drinking water, crops and/or grazing.
The material is toxic to fish, birds, wildlife.

METHODS FOR CLEANING:

Cover spillage with sand, earth or other suitable inert material, carefully shovel up and transfer to salvage container; mark container "HAZARDOUS WASTE".
Dispose of as for hazardous waste in accordance with local/national regulations.

PREVENTION OF SECONDARY HAZARDS: Inspect for damaged containers and take the necessary precautions.

PROTECTIVE CLOTHING:

Chemical impermeable gloves, safety goggles or face shield, effective respiratory protection or self-contained breathing apparatus as dictated by circumstances, full length protective clothing, apron and boots.

7) HANDLING AND STORAGE

HANDLING:

WARNINGS

Use only as directed.
Harmful if swallowed and upon prolonged contact with the skin.
Toxic to fish and wildlife.
Keep out of reach of children, uninformed persons and animals.
Store bait in its pack away from food and feedstuffs.
Do not place bait at random in treated area but use exclusively as given under directions for use.

PRECAUTIONS

Avoid contamination of any edible commodity, food utensils and drinking water.
Set bait where it will be inaccessible to children and domestic animals.
Avoid contact with the skin; wear rubber gloves and wash hands after handling.
Do not eat, drink or smoke while handling the bait or before washing hands and face.
Bury or burn dead rodents and any bait not consumed at end of treatment.

ENVIRONMENTAL

PRECAUTIONS

During application and when cleaning equipment and protective clothing, contamination of all sources of drinking water, rivers, dams, other crops or grazing shall be prevented.

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HAZARDS

The product is toxic to fish, birds and wildlife.
Poisoned dead rodents may present a hazard to scavengers.

CLEANING OF EQUIPMENT AFTER USE

Clean protective clothing, used protective clothing and personal clothing shall be kept apart. At the end of each day, all protective clothing shall be decontaminated, washed, rinsed and dried.

STORAGE

SUITABLE CONDITIONS

Store under lock and key, out of reach of children, animals and uninformed persons.
Store in a cool, dry place away from sources of heat and naked flames.

PRECAUTIONS

Store away from farm feeds, foodstuffs, eating utensils and drinking water.

PACKAGING MATERIALS

Recommended packaging: Original sealed container.

8) EXPOSURE CONTROLS AND PERSONAL PROTECTION

PERSONAL PROTECTION

APPLICATION

Chemical impermeable gloves. Wash exposed skin area, face and hands after use.

MANUFACTURE

Chemical impermeable gloves, goggles or face shield as necessary, respiratory protection, full length overalls, apron and boots.

EMERGENCY

Chemical impermeable gloves, safety goggles or face shield, effective respiratory protection or self-contained breathing apparatus as dictated by circumstances, full length protective clothing and boots.

SPECIFIC HYGIENE MEASURES

Avoid prolonged contact with the skin.

9) PHYSICAL AND CHEMICAL PROPERTIES

Description: Tapered blue wax blocks, with a centre hole embossed with the word "BARAKI".
Melting range: 56 to 60 °C.
Average weight: 8 to 9 grams per block.
Solubility: Difethialone, technical in water at 25 °C 0,39 mg/l ; slightly soluble in acetone and ethanol.

10) STABILITY AND REACTIVITY

Stability: Stable at normal temperatures and conditions.
Fire: Difethialone, technical decomposes in a fire to emit fumes of Br⁻ and hydrobromic acid.
Chemical Contact: No information available.

11) TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

For difethialone, technical the acute oral LD₅₀ for rats is 0,56 mg/kg and for mice is 1,29 mg/kg; the acute percutaneous LD₅₀ for rats is 5,3 mg/kg and the acute inhalation LC₅₀ (4 hours) for rats is 5 to 19,3 µg/l air.
No irritant effects to skin of healthy rabbits, no sensitisation; slight irritant effect to eyes of rabbits disappearing after washing with water.
Effective against rodents resistant to or susceptible to warfarin.

ACUTE SYMPTOMS OF HUMAN EXPOSURE:

INHALATION

An acute hazard unlikely during normal use of product.

SKIN

Significant absorption of the toxin through intact skin over an extended period and accumulation in body tissue may occur; nausea and vomiting may occur soon after exposure, but several hours/days may elapse before typical symptoms of anticoagulant poisoning become evident; symptoms include abrupt unusual abdominal pain, increased tendency to bleed, bruising, nose and gum bleeding, pallor, blood in the urine and faeces, haemorrhage into and around elbow and knee joints and multiple spread of haematoma.

EYE

Contact with the eye may cause irritation, redness, blurred vision and discomfort.

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INGESTION

May cause nausea, and vomiting may occur soon after ingestion, but several hours or days may elapse before typical features of anticoagulant poisoning become evident; symptoms include abrupt and unusual abdominal pain, increased tendency to bleed, bruising, nose and gum bleeding, pallor, blood in the urine and faeces, haemorrhage into and around elbow and knee joints and multiple spread of haematoma.

If accidental ingestion is suspected, contact a doctor immediately.

EFFECTS DUE TO REPEATED and/or PROLONGED EXPOSURE:

DELAYED EFFECTS

Several hours/days may elapse before typical features of anticoagulant poisoning become evident.
Toxin is readily absorbed through the skin and may accumulate in body tissue to toxic levels on prolonged contact.

CHRONIC STUDIES

In 90-day feeding trials, no toxicological effects were observed other than those related to anti-vitamin K activity. Non-mutagenic and non-teratogenic.

In daily oral administration for 13 weeks the no-effect dose for rats is 2 µg/kg and for beagle dog is 10 µg/kg.

MODE OF ACTION OF ACTIVE INGREDIENT:

Difethialone blocks the formation of reduced vitamin K within the liver, so coagulation factors can no longer be activated. Blood clotting no longer takes place normally, leading to the occurrence of internal haemorrhages and death.

Various pharmacological trials carried out in vitro and in vivo show that difethialone has no effect on the central nervous system or on the cardiovascular system and has no antispasmodic, analgesic, anti-inflammatory or gastric antacid activity.

Difethialone is not considered to be mutagenic and teratogenic.

12) ECOLOGICAL INFORMATION

Toxicity to fish: For difethialone the acute LC₅₀ (96 hours) for rainbow trout is 0.051 mg/l and for bluegill sunfish is 0.075 mg/l.

Toxicity to hare: For difethialone the acute oral LD₅₀ is 0.75 mg/kg.

Toxicity to quail: For difethialone the acute oral LD₅₀ is 0.26 mg/kg.

Toxicity to duckling: For difethialone the acute oral LC₅₀ is 1.94 ppm.

Toxicity to bees: Unknown.

Degradation: Difethialone in rats, following oral administration, is characterised by a short half-life in blood, a longer half-life in the liver and an essentially faecal elimination with almost complete absence of metabolism.

Bioaccumulation: High adsorption and low degradation on soil under aerobic conditions.

13) DISPOSAL CONSIDERATIONS

ACCIDENTAL SPILLAGE

Cover solid spillage with dry sand if necessary, sweep up and dispose of as for toxic waste in accordance with local/national regulations.

Protective clothing to be worn when clearing spillage (See Section 6).

WASTE FROM RESIDUES

Residue to be disposed of as for toxic waste in accordance with local/national regulations.

DISPOSAL OF USED PACKAGING MATERIAL

Destroy the empty container by perforation and flattening and dispose of packaging and unused product as for toxic waste in accordance with local/national regulations. DO NOT re-use for any other purpose

14) TRANSPORT INFORMATION

INTERNATIONAL REGULATIONS

UN No.: 3027

IMDG: 6.1

IATA: 6.1

ROAD: 6.1

RAIL: 6.1

15) REGULATORY INFORMATION

STATUTORY ASPECTS: The product is classified as a Group II Hazardous Substance under the Hazardous Substance Act, Act 15 of 1973, as amended.

The product is registered as L.4252 under the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, Act 36, 1947.

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| Publication date: Jul 97 | Sheet number: SA123/01 | Revised on: | Revision number: |
| The product must be handled in accordance with the Regulations for Hazardous Chemical Substances under Act No. 85 of 1993 and published in the Government Gazette Vol. 362 No. 16596 (25 August 1995). | | | |
| Baraki [®] - Registered Trademark of Aventis CropScience South Africa (Pty.) Ltd. | | | |
| PACKAGING AND LABELLING | | | |
| SABS 0228 | S3027 | HAZARD SYMBOL: | St Andrews Cross |
| S.I.N.: | II -moderately hazardous | HAZARD STATEMENT: | Harmful |
| TOXICITY GROUP: | Yellow | | |
| COLOUR BAND: | | | |
| SABS 0229 | PACKAGING GROUP III | | |
| Class 6.1 | | | |
| 16) OTHER INFORMATION | | | |
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