

MATERIAL SAFETY DATA SHEET

MAKI BLOCK**- 1 - IDENTIFICATION OF CHEMICAL PREPARATION AND COMPANY**

Commercial Name: **MAKI BLOCK**
Use: Rodenticide.
Appearance: Green-coloured block.
Company Identification: LIPHATECH S.A.S
Address: Bonnel – BP 3 – 47480 PONT DU CASSE (France)
Telephone Number: +33 5 53 69 35 70
Emergency number (24 h): 13 11 26
Fax Number: +33 5 53 69 35 79

- 2 - IDENTIFICATION OF HAZARDS**Hazard classification: NON HAZARDOUS SUBSTANCE. NON DANGEROUS GOODS.**

Not classified as a hazardous substance according to the criteria of NOHSC.

Not classified as a dangerous good according to the Australian Dangerous goods Code for Rail and Road Transport, 6th Edition.

Poison schedule: 6 (according to SUSDP No. 20)

Although this product is not classified as dangerous, the active ingredient may cause serious damage to health by prolonged exposure. The active ingredient has antivitamin K properties and absorption or ingestion can cause blood coagulation problems including haemorrhagic syndrome. See First aid section below.

- 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Green-coloured rodenticide block bait. The active ingredient is Bromadiolone, (CAS number 28772-56-7; Eines number 249-205-9) which is present at a concentration of 50 mg/kg. The other ingredients are food grade materials.

- 4 - FIRST AID**POISONING SYMPTOMS :**

Clinical symptoms: nosebleed, gum bleed, spitting blood, multiple or large haematoma, generally sudden appearance of an unusual visceral pain.

Biological symptoms: blood in the urine, increase in coagulation time.

In all cases of suspected exposure, medical assistance should be sought immediately. Show this data sheet. See antidotal therapy below. Note that poisoning symptoms may develop over the course of several days.

EYE CONTACT:

- 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.
- Monitor for symptoms described above.

INHALATION:

- The preparation is a non-dusty solid block. Inhalation is not applicable as a route of exposure

SKIN:

- Remove contaminated clothing. Launder before re-use.
- Rinse skin immediately with soap and water.
- Monitor for symptoms described above.

INGESTION:

- Wash out mouth with plenty of water.
- If swallowed, seek medical advice immediately and show the container/label/safety data sheet.
- Do not induce vomiting unless told to do so by the Poisons Information centre or doctor.
- Do not give anything by mouth to an unconscious person.

MEDICAL ADVICE:

Primary treatment is antidotal therapy rather than clinical assessment. Antidotal therapy: SPECIFIC vitamin K1 (phytonadione). Analogues of Vitamin K1 (vitamin K3: menadione for example) are not very active and should not be used. The efficacy of the treatment should be followed by measuring the coagulation time. The treatment should not be discontinued until the coagulation time returns to normal and REMAINS normal. In case of serious intoxication, it may be necessary to administer, in addition to vitamin K1, blood or frozen fresh plasma or PPSB coagulant blood fraction transfusions.

- 5 - FIRE FIGHTING MEASURES

There are no unusual fire related hazards. The substance is not highly flammable, is not oxidising or explosive and does not release excess volumes of gases on heating.

EXTINGUISHING MEDIA: Use foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material. Foam or dry chemical fire extinguishing system is preferred to prevent excessive water run off.

SPECIAL EXPOSURE HAZARDS: The preparation is not known to produce hazardous decomposition products under normal storage conditions. Normal products of organic combustion will be released under conditions of pyrolysis or combustion.

PROTECTIVE EQUIPMENT FOR FIREFIGHTING: Normal fire fighting protective equipment.

- 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Operators must observe precautions in Handling and Storage and Exposure controls Sections of this sheet.

ENVIRONMENTAL PRECAUTIONS: Cleaning up (see below). In the case of major spillage in water, prevent entry into drains and waterways. If polluted water reaches drainage systems or water courses, immediately inform the appropriate authorities.

METHODS FOR CLEANING UP: Collect or sweep up preparation into containers for recovery and disposal. After removal, clean contaminated area with water and detergent. Avoid the entry of washings into drains or waterways.

- 7 - HANDLING AND STORAGE

HANDLING: No special control systems are required.

STORAGE: Store securely. Keep away from food and out of reach of children. Store in original packaging.

SPECIFIC USES: As rodenticide bait.

- 8 - EXPOSURE CONTROL - PERSONAL PROTECTION

EXPOSURE LIMITS: Occupation Exposure Standards are not set for the active substance.

OCCUPATIONAL EXPOSURE CONTROLS: Although this product is not classified as hazardous, operators should be aware that the active ingredient may cause serious damage to health by prolonged exposure.

RESPIRATORY PROTECTION: The preparation is a solid block and poses no inhalation risk.

HAND PROTECTION: It is recommended that operators wear disposable latex or similar flexible gloves suitable for biological hazards (compliant with EN 455-3). Care should be taken when removing and disposing of gloves. Users should wash hands immediately after handling in all cases.

EYE PROTECTION: The product is a non-dusty, non-irritant solid block and poses no splash or impact risk. Eye protection is not necessary if using according to recommendations.

SKIN PROTECTION: The product is a non-dusty, non-irritant, non-sensitising solid block. Specific protective clothing or other Personal Protective Equipment is not required if using according to recommendations.

In case of frequent or prolonged use, monitoring of coagulation time is recommended.

- 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Green-solid block

ODOUR: None

FLASH POINT: Not applicable to solid substances

FLAMMABILITY: Not highly flammable

OXIDIZING PROPERTIES: Not oxidising

EXPLOSIVITY: Does not have explosive potential

WATER SOLUBILITY: Not soluble

- 10 - STABILITY AND REACTIVITY

STABILITY: The preparation is stable under normal ambient conditions.

CONDITIONS TO AVOID: The preparation is not known to undergo hazardous reactions under normal handling conditions.

MATERIALS TO AVOID: The preparation is not known to undergo hazardous reactions in contact with other substances.

HAZARDOUS DECOMPOSITION PRODUCTS: The preparation is not known to produce hazardous decomposition products under normal storage conditions. Normal products of organic combustion will be released under conditions of pyrolysis or combustion.

- 11 - TOXICOLOGICAL DATA

ACUTE TOXICITY: Studies conducted on the preparation

Oral LD50 – Rat > 5000 mg/kg bw: Not classified as toxic.
 Dermal LD50- Rat > 2000 mg/kg bw: Not classified as toxic.
 Inhalation LC50- Not applicable to solid block preparation.
 Eye Irritation – Not classified as irritating.
 Skin Irritation – Not classified as irritating.
 Sensitization – Not classified as sensitising.

REPEATED DOSE TOXICITY: Studies conducted on Bromadiolone active ingredient

90 day dog: LOAEL = 20 µg/kg bw/day based on haemorrhagic changes seen at necropsy
 The substance is therefore classified as having danger of serious damage to health by prolonged exposure

CARCINOGEN DATA: Long term use of the structurally similar active substance warfarin in humans has shown no carcinogenic effects. No evidence of carcinogenicity.

MUTAGENIC DATA: No evidence of mutagenicity.

REPRODUCTIVE TOXICITY: No evidence of reproductive toxicity.

OTHER COMMENTS: The substance is a powerful anticoagulant rodenticide. Its toxicity is due to its antivitamin K activity.

- 12 - ECOLOGICAL INFORMATION

ECOTOXICITY

Ecological information on Bromadiolone active ingredient

BIRD TOXICITY

Acute oral LD ₅₀ :	NOEC: 50 mg/kg bw (Bobwhite quail) and < 500 mg/kg bw (Mallard duck) LD/C ₅₀ : 138 mg/kg bw (Bobwhite quail) and 1293 mg/kg bw (Mallard duck)
Short term dietary LC ₅₀ :	NOEC: < 10 mg/kg food (Bobwhite quail: 30 days) and < 19 mg/kg food (Mallard duck: 35 days). LD/C ₅₀ : 62 mg/kg food (Bobwhite quail: 30 days) and 110 mg/kg food (Mallard duck: 35 days).

ACUTE AQUATIC TOXICITY

Fish LC₅₀ (96 h.) : >1.4 mg/l for *O. mykiss* and 3.0 mg/l for *L. macrochirus*.
 Algae E_bC₅₀ (72 h.): 0.17 mg/L
 Daphnia magna EC₅₀ (48 h.): 2.0 mg/L

The substance is therefore very toxic to aquatic organisms and may cause long-term adverse effects.

- 12 - ECOLOGICAL INFORMATION (TO BE CONTINUED)

TERRESTRIAL TOXICITY

Earthworm:	Acute NOEC:	> 9.48 mg/kg soil
	Acute LOEC:	> 9.48 mg/kg soil
	Acute LC ₅₀ :	> 9.48 mg/kg soil

MOBILITY

The substance is reasonably strongly adsorbed to soil. The amount of the substance adsorbed to soil was 66.0 to 81.2% during the adsorption phase. Bromadiolone and any potential degradation products, even if released indirectly to soil in small quantities, are not likely to move through the soil profile and are unlikely to reach groundwater in significant quantities.

PERSISTENCE AND DEGRADABILITY

The substance is not considered to be biodegradable under environmentally relevant conditions or during sewage treatment processes. Hydrolysis is not expected to be a significant process in the environment. In aqueous solution, it is rapidly and extensively photolysed with a mean DT₅₀ value of 12.8 minutes. Photolysis led to the formation of carbon dioxide and significant levels of six unidentified degradation products which had either reached plateau levels or were declining at the end of the study (15 days). The substance is quickly degraded in soil under aerobic conditions with an estimated DT₅₀ value between 2.8 and 94.8 days, however degradation led to the formation of unidentified soil metabolites which persisted in significant quantities for >154 days. Bromadiolone is therefore not considered volatile and is not expected to volatilize to air in significant quantities.

BIOACCUMULATIVE POTENTIAL

The Log Pow is greater than 3 which indicates there is a potential to bioaccumulate.

OTHER ADVERSE EFFECTS

Up to this date no other adverse effects are known

- 13 - DISPOSAL CONSIDERATIONS

PRODUCT: The preparation is a rodenticide and if ingested by domestic or wild animals will cause death. Care should therefore be taken to ensure that disposal methods do not expose the preparation to non-target wild or domestic animals or pets. Dispose of empty container by wrapping in paper, placing in a plastic bag and putting in garbage. Contact your supplier or the Local Authority or a reputable waste disposal company for collection and disposal of unwanted product. The preparation cannot be safely neutralised. Do not release into drains or waterways. Refer to local waste and Environmental regulations.

PACKAGING: The empty container should not be used for any other purpose and should be disposed of considering the comments above preferably by incineration.

- 14 - TRANSPORT INFORMATION

Not classified as a Dangerous Good according to the Australian Dangerous Goods Code for Rail and Road Transport, 6th Edition..

- 15 - REGULATORY INFORMATION

SUSDP: Schedule 6
APVMA: Registered according to the Agricultural and Veterinary Chemicals Act 1988.
APVMA Product number : Not yet given

Risk phrases are not therefore required, however the following Safety Phrases are considered essential for this rodenticide preparation.

- S 2: Keep out of reach of children.**
S 13: Keep away from food, drink and animal feed stuffs.
S 20/21: When using, do not eat, drink or smoke.
S 35: This material and its container must be disposed of in a safe way.
S 46: If swallowed, seek medical advice immediately (show label where possible).
S 49: Keep only in original container

This preparation contains bromadiolone as the active ingredient (CAS number 28772-56-7; Einesc number 249-205-9) which is present at a concentration of 50 mg/kg.

- 16 - OTHER INFORMATION

Version number: 0
Date of issue of this version: 11 May 2006
Supersedes version number: -
Details of changes since last issue: -

APVMA – Australian Pesticides and Veterinary Medicines Authority
NOHSC – National Occupational Health and Safety Commission
SUSDP – Standard for the Uniform Scheduling of Drugs and Poisons

Information contained in this Material Safety Data Sheet is based on our present knowledge of the product and concern a product description in conformity with Health, Safety and Environmental regulations.

Our local licensee, liable for the local distribution of the product, will adapt this safety data sheet to the local regulation.

This information should be used as a guide and does not imply any warranty concerning the specific properties of the product and the specific local needs.