

MATERIAL SAFETY DATA SHEET

MURIN FORTE CEREALS MIX

Date: February 2009

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1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

1.1 Identification of the preparation: MURIN FORTE CEREALS MIX

1.2 Use of the preparation: Rodenticide bait

1.3 Company identification: VEBI ISTITUTO BIOCHIMICO SRL
Via Desman 43
35010 Borgoricco (PD) - Italy
Phone 39/49/9337111
Fax 39/49/5798263

1.4 Emergency phone number: 39/49/9337111

1.5 e-mail SDS manager: info@vebi.it

2. HAZARD IDENTIFICATION

MURIN FORTE CEREALS MIX is a rodenticide bait containing an anticoagulant active ingredient, the Bromadiolone.

Health risks: no hazard indication. HANDLE WITH CARE.

Environment risks: no hazard indication. Do not leave the unused baits in the environment.

3. COMPOSITION

The preparation contains:

Bromadiolone (active ingredient): 0.005%

IUPAC name: 3-[3-(4'-bromobiphenyl-4-yl)-3-hydroxy-1-phenylpropyl]-4-hydroxycoumarin

CAS number : 28772-56-7

CEE number : 249-205-9

Symbols: T+; N R phrases: 27/28-48/24/25-50/53

Denatonium benzoate (repulsive agent) 0.001%

Nome IUPAC: N-[2-(2,6-Dimethylphenyl) amino]-2-oxoethyl]-N-N, diethylbenzethanaminium benzoate

CAS N. : 3734-33-6 EINECS N: 2230952

Simboli : Xn

Fraasi R: 20/22, 38, 41, 52/53

4. FIRST-AID MEASURES

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

Do not give any substance through mouth to unconscious people.

Skin contact: Wash skin immediately with soap and plenty of water.

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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 and seek medical advice

Inhalation: not applicable because the preparation is not an aerosol

Advice for the doctor: the preparation contains an anticoagulant substance and its effects can persist for a long time.

It is advisable:

1. To check the prothrombinic activity many times, also after a few days, particularly if the quantity swallowed is high. The antidote is vitamin K1.
2. In animals and particularly in pets, vitamin K1 can be given even in absence of alterations of the coagulation, because of the gravity of the haemorrhage which can appear in case of ingestion.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media: Foam, chemical powders, CO₂
- Extinguishing media which must not be used for safety reasons: none
- Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases: Toxic gas (COx, Br₂)
- Special protective equipment for fire-fighters: Wear self-contained breathing apparatus and protective clothing

6. ACCIDENTAL-RELEASE MEASURES

- Personal precautions: Wear suitable gloves 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 the product. Wash with water.

7. HANDLING AND STORAGE

- Handling: Use all the individual precautions while handling the product. Do not eat, drink and smoke while handling the product.
- Storage: Keep the product tightly closed in its original pack, in cool and dry places, far from unauthorised people and far from foods.
- Specific measures: ---

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Respiratory protection: not necessary because aerosol are not developed
- Hand protection: Gloves for chemical products. Change them periodically.
- Eye protection : Not necessary
- Skin protection: Protective clothes. Change them periodically.

All the usual precautions for handling chemical products have to be followed.

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9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state: cereals mix
- Colour: red
- Odour: characteristic
- Flash point :> 120°C
- Water solubility: lightly soluble

10. STABILITY AND REACTIVITY

- Conditions to avoid: Exposure to high temperatures (> 40°C)
- Materials to avoid: none
- Hazardous decomposition products: Thermic decomposition can produce toxic exhalations (carbon oxide)

11. TOXICOLOGICAL INFORMATION

- **Oral toxicity**
- Active ingredient LD₅₀ acute oral (rat) : 1,12 mg/kg (WHO)
- Active ingredient 0.005% LD₅₀ acute for target animals > 5000 mg/kg
- Acute dermal toxicity: LD₅₀ >2.000 mg/kg (BIOLAB)

12. ECOLOGICAL INFORMATION

The product MURIN FORTE CEREALS MIX contains the following environmental dangerous substances:

Bromadiolone 0.005%

CAS: 28772-56-7

EINECS: 249-205-9

R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Denatonium Benzoate (repulsive agent) : 0.001%

CAS: 3734-33-6

EINECS: 2230952

R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

In this moment ecotoxicological data about the product MURIN FORTE CEREALS MIX are not disposable. The following information describes the toxicity of a solution (0.25%) of the active ingredient Bromadiolone.

Ecotoxicity

- Fish*: At the dosage of 100 mg/l, during the 96 hours of observation no symptom of toxicity has appeared and no death has occurred (Report no. 95/11598 Biolab).

- Algae*: At the dosage of 100 mg/l there is no difference in the growing of the algae (Report no. 95/11597 Biolab).

- Daphnia*: Cl₅₀ is > 100 mg/l (Report no. 95/11596 Biolab)

**reports refer to "Concentrate 0,25%*

12.2 Mobility

Absorption coefficient of the active ingredient is $K_{oc} = 528$; classification: no leaching (Technical Report N. 1 14/07/1997 Chemservice).

12.3 Persistence and degradability

The active ingredient is degradable, particularly at the light.

12.4 Bioaccumulative potential

The active ingredient has Log Pow: 3,5 (Study CH-14/96-B Chemservice).

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

The transport of this product is not subject to the regulations for «dangerous products».

Rail and road transport (RID/ADR): NO

Sea shipment IMDG: NO

Air shipment IATA: NO

15. REGULATORY INFORMATION

The product is not classified according to Directive 1999/45/CE and 2001/60/CE.

16. OTHER INFORMATION

Complete text of the R Phrases indicated in Section 3:

R 20/22 Harmful by inhalation and if swallowed

R 27/28 Very toxic in contact with skin and if swallowed.

R 38 Irritating to skin

R 41 Risk of serious damage to eyes

R 48/24/25: Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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 edition.