



MATERIAL SAFETY DATA SHEET

DEADFAST RAT & MOUSEKILLER

1. IDENTIFICATION OF CHEMICAL PREPARATION AND COMPANY

Product Name: **DEADFAST RAT & MOUSE KILLER**
Use: Rodenticide.
Appearance: Red-coloured wheat.

Company Identification: William Sinclair Horticulture Limited
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2. HAZARDS IDENTIFICATION

The product is not classified as Dangerous according to Directive 2006/8/EC.

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

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

4. FIRST AID MEASURES

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 non-dusty wheat. 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 poison control 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 (phytomenadione). 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 dangerous, operators should be aware that the active ingredient may cause serious damage to health by prolonged exposure.

RESPIRATORY PROTECTION: The preparation is a wheat 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 wheat 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 wheat. 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: Red-coloured wheat

ODOUR: Characteristic of grain

FLASH POINT: Not applicable to solid substances

FLAMMABILITY: Not highly flammable

OXIDIZING PROPERTIES: Not oxidising

EXPLOSIVITY: Does not have explosive potential

WATER SOLUBILITY: Not miscible

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. Dermal LD₅₀ – Rabbit > 2000 mg/kg bw: Not classified. Inhalation LC₅₀ – Not applicable to wheat preparation. Eye Irritation – Not classified. Skin Irritation – Not classified. Sensitization – Not classified.

REPEATED DOSE TOXICITY: Studies conducted on active ingredient

Oral LD₅₀ – 0.56 to 0.84 mg/kg bw (rat): classified as very toxic by inhalation, in contact with skin and if swallowed.
Dermal LD₅₀ – 1.71 mg/kg bw (rabbit): classified as very toxic by inhalation, in contact with skin and if swallowed.
Inhalation LC₅₀ – 0.43 µg/l (rat): classified as very toxic by inhalation, in contact with skin and if swallowed.
Eye Irritation – Not classified. Skin Irritation – Not classified. Sensitization – Not classified.

REPEATED DOSE TOXICITY: Studies conducted on 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

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 for *S. subspicatus*

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.

TERRESTRIAL TOXICITY

Earthworm:	Acute NOEC (14 days):	> 9.48 mg/kg soil for <i>Eisenia</i>
	Acute LOEC (14 days):	> 9.48 mg/kg soil for <i>Eisenia</i>
	Acute LC ₅₀ (14 days):	> 9.48 mg/kg soil for <i>Eisenia</i>

BIRD TOXICITY

LD₅₀:NOEC – 50 mg/kg bw (Bobwhite quail) and < 500 mg/kg bw (Mallard duck)

LD/C₅₀ – 138 mg/kg bw (Bobwhite quail) and 1293 mg/kg bw (Mallard duck)

Short term dietary LC₅₀: NOEC – < 10 mg/kg food (Bobwhite quail – 30 days) and < 19 mg/kg food (Mallard duck – 35 days).

LD/C₅₀ – 62 mg/kg food (Bobwhite quail – 30 days) and 110 mg/kg food (Mallard duck – 35 days).

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 indicate there is a potential to bioaccumulate.

OTHER ADVERSE EFFECTS

Up to this date no other adverse effects are known

13. DISPOSAL CONSIDERATIONS

PREPARATION: 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. Do not put in domestic waste. Incinerate or 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

The preparation does not have a Transport Classification.

15. REGULATORY INFORMATION

The preparation is not classified as Dangerous according to Directive 2006/8/EC.

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; Eines number: 249-205-9) which is present at a concentration of 50 mg/kg.

16. OTHER INFORMATION

This safety data sheet provides health and safety information. The product is to be used in a way consistent with best horticultural practice as stated on packaging. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of our knowledge correct at the date of publication. William Sinclair Horticulture Limited disclaims any liability for any loss or damage resulting from reliance on this information.

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