

SAFETY DATA SHEET

Made in accordance with Regulations 1907/2006/EC and 1272/2008/EC and 2015/830/EU

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier: **BIOKETT rodenticide**

1.2. Relevant identified uses of the substance or mixture and uses advised against:

biocidal product, product-type 14th; rodenticide
For general and professional use

Contraindicated use: if it's different from the above

1.3. Details of the supplier of the safety data sheet:

METATOX Peszticid Gyártó és Forgalmazó Kft.

H-5520 Szeghalom, Kossuth u. 8.

Telephone: +(36) 66 371 168; +36 30 5757 140

Contact details of the person responsible for the safety data sheet: info@metatox.hu

1.4. Emergency telephone number: Health Toxicology Information Service:

workhours: +36 1 476-6464 non-stop: +36 (80) 20 11 99

2. Hazards identification

2.1. Classification of the substance or mixture: **The product is a mixture.** According to the manufacturer, and to the relevant EU regulations, and to the Regulation (EC) No. 1272/2008 (CLP) and its amendments, **is a hazardous mixture.**

Hazard category: Specific target organ toxicity – repeated exposure, STOT RE 2

Hazard statement: H373 May cause damage to organ through prolonged or repeated exposure.(blood)

Physical-, chemical hazards, Health hazards and Environment hazards:

Not Classified

2.2. Label elements: Pictogram: GHS08 **Signal word:**DANGER

 <p>DANGER</p>	<p>Hazard statements: H373 May cause damage to organ through prolonged or repeated exposure.(blood)</p> <p>Precautionary statements: P101 If medical advice is needed, have product container or label at hand. P102 KEEP OUT OF REACH OF CHILDREN. P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P270 Do not eat, drink or smoke when using this product. P401 Store: Keep away from food, drink and animal feeding stuffs. P501 Dispose of contents/ container in accordance with national regulations.</p>
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Contains: **Biocidal active substance content: 0,0025%** bromadiolone

2.3. Other hazards:

The active ingredient of the product is anticoagulant, which may be cause disorders, bleeding or internal bleeding when ingestion of high blood levels of anticoagulants. The rodenticide agent contains a bitter substance (denatonium benzoate), which helps to prevent accidental human consumption of the product.

In order to prevent public health hazards and secondary poisoning, rodents destroyed during treatment should be removed.

The carcasses of dead rodents must be collected in protective gloves by means of a reversed plastic bag and then locked in an additional bag and sealed.

The carcasses in the double bag must be placed in a sealed waste receptacle; further treatment is treated as communal waste, see also section 13.

3. Composition/information on ingredients

3.1. Chemical character: mixture

Dangerous component	Concentration	Hazard class, category, H-sentences
Bromadiolone* CAS nr.: 28772-56-7 EC nr.: 249-205-9 Index nr.: 607-716-008	0,0025%	Acute Tox. 1 (oral, dermal, inhal.), H300, H310, H330; Repr. 1B, H360D, if the concentration \geq 0,003%; STOT RE 1, H372 (blood), if the concentration \geq 0,005%; STOT RE 2, H373 (blood), if 0,0005% \leq concentration < 0,005%; Aquatic Acute 1, H400, M _(acute) : 1; Aquatic Chronic 1, H410, M _(chronic) : 1
Denatonium-benzoate** CAS nr.: 3734-33-6 EC nr.: 223-095-2	0,001%	Acute Tox. 4 (oral, inhal.), H302, H332; Skin Irrit. 2, H315; Eye Dam. 1, H318; Aquatic Chronic 3, H412

* IUPAC name: 3-[(1RS,3RS,1RS,3SR)-3-(4'-bromobifenil-4-il)-3-hidroxi-1-fenilpropil]-4-hidroxikumarin

** There is no harmonized EU classification

The manufacturer does not indicate the presence of other hazardous ingredients.

Other undetermined components are not considered to be hazardous substances according to the legislation in force or their concentration in the formulation does not reach the extent to which their presence should be considered in the hazard classification.

The above hazard classes, categories, H-phrases refer to the pure component, the hazard classification according to the preparation is given in Section 2.

For full text of H-Statements and Abbreviations see Section 16.

4. First aid measures

4.1. Description of first aid measures

General information: The professionalism and speed of first aid can greatly reduce the occurrence and severity of the symptoms. In a person with unconscious or spastic fluid, drink or drink vomiting!

Inhalation: Bring the injured person to fresh air, place it in rest. In the event of symptoms or poisoning, seek medical attention.

Skin contact: Wash affected area with soap and plenty of water. If irritation occurs, seek medical attention.

Eye contact: Immediately flush eyes with plenty of water for at least 10 minutes, while the eyelids are opened and the eyeball is moved. If there is a contact lens, remove it and resume rinsing. In the event of a complaint or symptom persistence consult a specialist.

Ingestion: If swallowed, seek medical advice IMMEDIATELY and show the package, label or safety data sheet of the product. Vomiting should only be made to the physician's express instructions. Rinse mouth with water. Do not eat or drink, relax in a warm place and consult a physician.

4.2. Most important symptoms and effects, both acute and delayed: The active substance is anticoagulant bromadiolone. After ingestion of the product, blood clotting may be reduced and internal bleeding may occur. It may take up to several days between poisoning and symptoms.

4.3. Indication of any immediate medical attention and special treatment needed: Give Vitamin K1 to the patient, if you notice the characteristic symptoms of bromadiolone poisoning (nasal bleeding, gum bleeding, haematuria (blood in urine), longer coagulation time, hematomas of bigger extent or of greater frequencies, suddenly appearing, and unusual visceral pain). If bleeding is not noticeable, the prothrombin time (INR) needs to be measured within 48-72 hours following exposure. If the prothrombin time is greater than 4, the patient needs to get Vitamin K1 intravenously. Repeated administration of vitamin K1 might be needed.

Note to the physician: The active substance of the product is anticoagulant coumarin derivative, **antidote: Vitamin K₁.**

Prothrombin activity should be monitored for several days, especially when larger quantities of rodenticide have been into the body.

5. Firefighting measures

The product is not flammable but combustible.

5.1. Extinguishing media: usual extinguishing agents: carbon dioxide, extinguishing powder, water spray, foam. It should be established on the basis of burning in the environment.

Unsuitable extinguishing media: strong water jet.

5.2. Special hazards arising from the substance or mixture: high temperatures can cause toxic and irritant gases, vapors, eg. carbon monoxide, carbon dioxide and oxides of nitrogen during combustion and decomposition.

5.3. Advice for fire-fighters: full protective equipment and breathing apparatus independent of the environment if there is a risk of exposure to vapors or combustion products.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Mechanically collect the dispersed product, wear chemical resistant gloves and avoid exposure to the product! In the case of large amount of remediation, it is recommend to use dust-mask..

For non-emergency persons: leave the danger zone and notify the authorities.

Emergency services: Personal protective equipment is required. Remediation can only be performed by trained personnel.

6.2. Environmental precautions

The spilled product should not enter drains, water bodies or soil. Waste disposal and disposal should be in accordance with local regulations. If the product reaches the sewer or water bodies, the competent authorities must be informed.

6.3. Methods and material for containment and cleaning up

The scattered product need to mechanically sweep, sweeping free of dust, and place in a suitable container and dispose of it. Disposal in accordance with local regulations. Wash contaminated area with water or water containing detergent. Avoid to get the cleaning-water into the sewer.

6.4. Reference to other sections: see Section 8. and 13.

7. Handling and storage

The product can only be used for rodent control, as stated in the instructions for use. Avoid exposure to the product: skin contact, eye contact and swallowing. Do not eat, drink or smoke while using.

After treatment, wash hands with soap and plenty of water.

7.1. Precautions for safe handling: Avoid exposure to the product: Do not expose to skin, clothing, eyes

7.2. Conditions for safe storage, including any incompatibilities

Store in a sealed original container in a dry, cool, well-ventilated place, protected from direct sunlight, moisture, food, drink, feed and incompatible materials.

Can be used for 2 years from the date of manufacture.

Children, unauthorized persons, birds, livestock, pets do not have access.

7.3. Specific end use(s): biocidal product, rodenticide, for general and professional users. Users should always read the user's manual and follow the instructions for safe handling and use.

8. Exposure controls and personal protection

8.1. Control parameters

Occupational exposure limits: not available for the product.

Periodic medical examination is recommended for professional users, as repeated undesirable exposure to the formulation may reduce blood coagulability.

8.2. Exposure controls

Technical measure: not required.

Hygiene measures:

- Do not eat, drink or smoke during treatment.
- After treatment, wash thoroughly with warm, soapy water.
- Do not in contact with clothes or skin.

Personal protective equipment:

- **Respiratory protection:** not required.
- **Hand protection:** During treatment recommended to use a chemical resistant gloves conformint to EN 374. Replace protective gloves if damaged. When selecting a glove material, look at not only the substance but also the quality indicators as it changes from manufacturer to manufacturer. Selection should take into account breakthrough time, degradation parameters, and workplace factors such as duration of use, frequency, other chemicals with which there is a risk of contact, physical requirements (cutting / puncture protection).
- **Eye protection:** not required.
- **Skin protection:** workwear.

Environmental exposure controls: place the product in a place where pets, livestock and birds do not have access. The domestic animals, and all other predatory- and scavenger animals may be get poisoning, if consuming from the rats or mice what they destroyed by rodenticides.

Do not dispose of this product and its container into sewers, water bodies.

The above applies to professionally performed activities and intended use conditions, under normal circumstances. If work is done under different circumstances or exceptional circumstances, it is recommended that you decide on additional tasks and personal protective equipment by involving an expert.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Appearance:	inhomogeneous, impregnated grains
Color:	red
Taste:	bitter (contains denatonium benzoate)
Odor:	neutral – feed smell
Odor threshold:	no data available
pH-value at 20°C:	6,3 ± 0,1 (in 1% aqueous suspension)
Bulk weight:	0,721 ± 0,014 g/cm ³
Melting/boiling point:	not relevant
Decomposition temperature:	no data available
Flash point:	not relevant
Auto-ignition temperature:	no data available
Flammability (gas, solid):	no data available
Vapor pressure:	no data available
Evaporation rate:	not relevant
Solubility in water:	suspended
Partition coefficient:	no data available
Viscosity:	not relevant
Explosive properties:	not characteristic
Explosion limits:	not relevant
Oxidizing properties:	not oxidizing

9.2. Other information: no information available

10. Stability and reactivity

10.1. Reactivity: not typical.

10.2. Chemical stability: under normal conditions (normal temperature and pressure conditions and the storage conditions specified in Section 7) are stable.

10.3. Possibility of hazardous reactions: not known.

10.4. Conditions to avoid: high temperature, heat, heating, frost, moisture.

10.5. Incompatible materials: strong acids, alkalis, oxidants.

10.6. Hazardous decomposition products: not under normal conditions. In the fire toxic, irritant gases and vapors are formed, see Section 5.

11. Toxicological information

11.1. Information on toxicological effects: toxicological studies have not been performed with the product. The assessment was made only on the basis of the toxicological data, classifications and concentrations of the ingredients according to the CLP regulation.

Acute toxicity: based on estimated ATE values, the product should not be classified as acute toxicity (oral, dermal, inhalative).

Skin corrosion/skin irritation: the composition of the product and the available data are not corrosive and do not irritate the skin.

Serious eye damage / eye irritation: does not cause serious eye damage and does not irritate the eyes due to the composition of the product and the available data.

Respiratory-, and skin sensitization: product does not sensitize.

Germ cell mutagenicity: based on available information, the product is not need to classified as a mutagenic mixture.

Carcinogenicity: Based on available information, the product should not be classified as carcinogenic.

Reproductive toxicity: based on the specific concentration limit for the bromadiolone active ingredient, the criterion for classification is met. The product reproduced by a mixture (Repr. 1B); may harm the unborn child.

STOT SE:the product is not classified as hazardous to STOT SE, the criteria for classification in this hazard class are not met.

STOT RE: the criterion for this hazard classification is met on the basis of the specific concentration limit for bromadiolone as the concentration of bromadiolone in the product is 0.0025%.

The product is classified as a STOT RE 2 hazard class.

Aspiration toxicity:The product is not need to classified as causing to asphyxiation toxicity.

11.2. Expected effects of exposure to the product:

A product is a second generation anticoagulant.

Products have such a low levels of active ingredient content that the toxic dose for a person with normal body mass is several kilograms.

Consuming is very unlikely due to the biting substance.

Second-generation anticoagulant poisoning can be easily treated by administering Vitamin K1 and can be traced well by measuring blood coagulation factor.

If swallowed large amounts, blood clotting may occur, blood coagulation ability decreases, bleeding or internal bleeding may develop.

Repeated adverse reaction with the formulation may reduce blood coagulation ability, see also section 4.2. and 4.3. section.

12. Ecological information

12.1. Toxicity:bromadiolone is very toxic to aquatic organisms and causes long-lasting damage, but the product itself is not to be classified as a mixture hazardous to the aquatic environment since bromadiolone concentrations in the product are only **0.0025%** and bromadiolone M factors: 1.

12.2. Persistence and degradability: bromadiolone is not readily biodegradable and hydrolytically stable.

12.3. Bioaccumulative potential: the bioaccumulation factor of bromadiolone, its partition coefficient is high.

12.4. Mobility in soil: the bromadiolone is not mobile, or weakly mobile based on its K_{oc} value.

12.5. Result of PBT and vPvB assessment: bromadiolone is a potential PBT (persistent, bi-accumulative and toxic) or vPvB (very persistent and very bioaccumulative).

It not has been experimentally demonstrated that bromadiolone is a bioaccumulative or very bioaccumulative compound¹.

12.6. Other adverse effects: avoid residues and packaging of the product to the soil, to water bodies and sewers. The primary and secondary exposure of non-target organisms and the environment should be minimized by considering and taking all available and appropriate risk mitigation measures.

13. Disposal considerations

13.1. Waste treatment methods:

To treat the residues and waste of the preparation, see 225/2015. (VIII.7.) Government Decree and its handling of packaging waste is governed by Government Decree 442/2012 (XII.29.).

After the treatment, remove the feeding places and collect the residual product as well as the rodent traps and bait stations. Provision should be made to clean up any spilled product.

Waste loose product that can not be used for its original purpose should be treated as hazardous waste and placed in a hazardous waste disposal site, eg. waste site.

Waste product classification is 72/2013. (VIII.27.) VM.

Classification of waste product (Waste key / EWC code):

07 04 organic plant protection products (excluding 02 01 08 and 02 01 09), wood preservatives (excluding 03 02) and waste from the manufacture, presentation, distribution and use of biocides

07 04 13* solid waste containing dangerous substances

14. Transport information

This product is **not a hazardous product** under the terms of the International Carriage of Dangerous Goods by **ADR / RID, IMDG and IATA**.

15. Regulatory information

15.1. Safety, health and environmental regulations / legislation specific for the mixture

The active substance of the product is bromadiolon, an active substance approved under Directive 2009/92 / EC to the Product Type of 14.

The product does not contain any contain which is listed by REACH XVII. .

The product does not contain any SVHC material and does not contain any candidate list material by SVHC.

The product does not contain any listed material by REACH XIV.

Relevant Community legislation

Biocide Regulations: 528/2012/EU and its amendments, and 354/2013/EU, 414/2013/EU, 564/2013/EU, 613/2013/EU, 736/2013, 837/2013/EU, 88/2014/EU és 334/2014/EU, 1062/2014/EU

REACH Regulation: 1907/2006/EC and its amendments

CLP Regulation (1272/2008/EC) and its amendments: 1. ATP: 790/2009/EC regulation; 2. ATP: 286/2011/EC regulation; 3. ATP: 618/2012/EU regulation; 4. ATP: 487/2013/EU regulation; 5. ATP: 944/2013/EU regulation; 6. ATP: 605/2014/EU regulation; 7. ATP: 2015/1221/EU regulation; 8. ATP: 2016/918/EU regulation; 9. ATP: 2016/1179/EU regulation

Directive 98/24 / EC on the protection of the health and safety of workers from the risks related to chemical agents at work;

Occupational Exposure Limits: 91/322/EC regulation and its amendments; 2000/39/EC directive and its amendments; Directive 94/33/EC on the protection of young people at work.

Relevant national legislation

Biocidal: 38/2003. (VII.7.) ESzCsM-FVM-KvVM regulation on the conditions for the production and marketing of biocidal products; 316/2013. (VIII.28.) Government Decree on Certain Rules for the Authorization and Marketing of Biocidal Products;

Labour safety: az 1993. évi XCIII. Act on Occupational Safety; 25/2000. (IX.30.) EüM-SzCsM Decree on the Chemical Safety of Workplaces; 33/1998. (VI.24.) NM regulation on the medical examination and opinion on the professional, personal hygiene and fitness for work; 3/2002. (II.8.) SzCsM-EüM regulation on the minimum level of work safety requirements for workplaces;

Chemical safety: 2000. évi XXV. act on Chemical Safety and its amendments, detailed rules for certain procedures and activities related to dangerous substances and dangerous preparations, 44/2000. (XII.27.) EüM regulation and its amendments;

Environmental Protection: 1995. évi LIII. Act on the General Rules for the Protection of the Environment; 2012. évi CLXXXV. law on waste; 225/2015. (VIII.7.) Government Decree on detailed

rules for certain activities related to hazardous waste; 72/2013. (VIII.27.) VM Regulation on the Waste List;

Fire protection: 1996. évi XXXI. law on fire protection, technical rescue and fire brigade; az 54/2014. (XII.5.) BM regulation on the National Fire Protection Code.

15.2. Chemical safety assessment: no chemical safety assessment has been carried out.

16. Other information

The safety data sheet is not intended to guarantee certain characteristics of the product, does not replace the details product specification.

The information, data and recommendations contained in the Safety Data Sheet are based on our best knowledge, which are known and accurate and at the time of issue and are designed to help the safe use of the product.

Store, treat and use the product only as described in the instructions for use.

It is the responsibility of the user to take all necessary precautions when using the product.

This data sheet does not imply any legal obligation or liability for misuse, or improper use, as the conditions of use (handling, application, storage, disposal, etc.) fall outside our control.

Full text of all H-phrases and abbreviations in section 3:

Abbreviations of Hazard Classes: (abbreviated numbers mean the class within the class, larger numbers represent a lower risk):

Acute Tox.: acute toxicity; oral: orally; dermal: through the skin; inhal.: inhalation; Repr.: reproductive toxicity; STOT RE: target organ toxicity, repeated exposure; Skin Irrit.: skin irritation; Eye Dam.: serious eye damage;. Aquatic Acute: dangerous for the aquatic environment, acute danger; Aquatic Chronic: it poses a chronic danger to the aquatic environment.

H300 Fatal if swallowed.

H302 Harmful if swallowed.

H310 Fatal in contact with skin.

P314 Get medical advice/attention if you feel unwell.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H330 Fatal if inhaled.

H332 Harmful if inhaled.

H360D May damage the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure (blood).

H373 May cause damage to organs through prolonged or repeated exposure (blood).

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long-lasting effects.

H412 Harmful to aquatic life with long-lasting effects.

Sheet History: This data sheet is based on manufacturer data and overwrites previous versions. The purpose of this amendment is to comply with Regulation (EU) No 2016/1179.

The product's packaging sizes and merchantability:

General public use, for retail distribution	For professionals, only in wholesale distribution
50, 100, 120, 125, 150 g	50, 100, 120, 125, 150, 200, 400, 500 g; 2, 2.5, 3, 4, 5, 20, 25, 50 kg

*The product including to the III. distribution category; however, packaging of a size larger than 150 g can only be sold exclusively to the professionals.

Pay attention to safety when using biocides!
Always read the label and instructions before use!

To avoid risks to human health and to the environment, must be observed the instructions for use!

Carefully read the information on the label and the instructions for safe use before each use!

The safety data sheets of the products are publicly available and can be downloaded free of charge from our website!