

SAFETY DATA SHEET ACCORDING TO REGULATION (EC) 1907/2006



Product name: RATIMOR BRODIFACOUM WAX BLOCKS 50

Creation date: 28.02.2023, Revision: 09.12.2024, Version: 2.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name

RATIMOR BRODIFACOUM WAX BLOCKS 50



<https://my.chemius.net/p/FUwVnv/en/pd/en>

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

Relevant identified uses

Rodenticide for the extermination of mice and rats

Type of biocidal product: PT14

Uses advised against

To use only for the purposes stated in this Safety Data Sheet or on the product label. Any other use is prohibited. Do not use rodenticide unprotected in places where other animals or people move or stay.

1.3 Details of the supplier of the safety data sheet

Supplier

UNICHEM D.O.O.

Sinja Gorica 2

1360 Vrhnika, Slovenia

+386 1 755 81 50

unichem@unichem.si

1.4 Emergency Telephone Number

Emergency

111

Supplier

+386 1 755 81 50

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Skin Sens. 1; H317 May cause an allergic skin reaction.

Repr. 1A; H360D May damage the unborn child.

STOT RE 2; H373 May cause damage to organs (blood) through prolonged or repeated exposure.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

**Signal word: DANGER**

H317 May cause an allergic skin reaction.

H360D May damage the unborn child.

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

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P262 Do not get in eyes, on skin, or on clothing.

P280 Wear protective gloves.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P314 Get medical advice/attention if you feel unwell.

P404 Store in a closed container.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local regulations.

Contains:

1,2-benzisothiazol-3(2H)-one

brodifacoum (ISO)

octhilonone (ISO)

Special provisions

Restricted to professional users.

2.3 Other hazards**PBT/vPvB**

No information.

Endocrine disrupting properties

The product does not contain substances with the potential for endocrine disorders.

Additional information

No information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

For mixtures see 3.2.

3.2 Mixtures

Name	CAS EC Index REACH	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Concentration Limits	Notes for substances
1,2-benzisothiazol- 3(2H)-one	2634-33-5 220-120-9 613-088-00-6	0,005-<0,049	Acute Tox. 4; H302 Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Dam. 1; H318 Aquatic Acute 1; H400; M = 1	Skin Sens. 1; H317; C ≥ 0.05%	/

brodifacoum (ISO)	56073-10-0 259-980-5 607-172-00-1	0,005	Acute Tox. 1; H300 Acute Tox. 1; H310 Acute Tox. 1; H330 Repr. 1A; H360D STOT RE 1; H372 (blood) Aquatic Acute 1; H400; M = 10 Aquatic Chronic 1; H410; M = 10	Repr. 1A; H360D; C ≥ 0.003% STOT RE 1; H372; C ≥ 0.02% STOT RE 2; H373; 0.002% ≤ C < 0.02%	/
oethilinone (ISO)	26530-20-1 247-761-7 613-112-00-5	0,0015-0,002	Acute Tox. 3; H301 Acute Tox. 3; H311 Skin Corr. 1; H314 Skin Sens. 1A; H317 Eye Dam. 1; H318 Acute Tox. 2; H330 Aquatic Acute 1; H400; M = 100 Aquatic Chronic 1; H410; M = 100 EUH071	Skin Sens. 1; H317; C ≥ 0.0015% oral: ATE = 125 mg/kg bw dermal: ATE = 311 mg/kg bw inhalation: ATE = 0.27 mg/l (dusts or mists)	/
denatonium benzoate	3734-33-6 223-095-2 -	0,001	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	/	/

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General notes

Remove affected person from the contaminated area to fresh air or well-ventilated area, providing her basic life functions and protect it from the cold or heat. Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency.

Following inhalation

Remove patient to fresh air - move out of dangerous area. If symptoms develop and persist, seek medical attention.

Following skin contact

Take off all contaminated clothing. Wash affected skin areas thoroughly with plenty of water and soap. If symptoms develop and persist, seek medical attention.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. If irritation persists, seek professional medical attention.

Following ingestion

Do not induce vomiting! Rinse mouth thoroughly with water. In case of doubt or if feeling unwell seek medical help. Show the physician the safety data sheet or label.

4.2 Most important symptoms and effects, both acute and delayed

Following inhalation

Breathing dust can irritate the respiratory tract. Coughing, sneezing, nasal discharge, labored breathing.

Following skin contact

May cause sensitisation by skin contact (symptoms: itching, redness, rashes). Contact with skin may cause irritation (redness, itching).

Following eye contact

Contact with eyes can cause irritation (redness, tearing, pain).

Following ingestion

The product is the anticoagulant rodenticide with characteristic of coumarins. In case of poisoning bleeding disorders and increased bleeding tendency may occur. In severe poisoning a strong internal bleeding can cause circulatory collapse and consequent death. Symptoms may be delayed in onset by days.

4.3 Indication of any immediate medical attention and special treatment needed

In case of an accident or if you feel unwell, seek medical advice immediately (show the label where possible). **ADVICE FOR DOCTORS:** Brodifacoum is an indirect anti-coagulant. Phytomenadione, Vitamin K1, is antidotal. Determine prothrombin time not less than 18 hours after consumption. If elevated, administer Vitamin K1 until prothrombin time normalises. Continue determination of prothrombin time for three days after withdrawal of antidote and resume treatment if elevation recurs in that time.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide. Dry chemical powder. Water spray. Alcohol resistant foam.

Unsuitable extinguishing media

Full water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

In case of heating harmful vapours/gases can be generated.

5.3 Advice for firefighters

Protective actions

Cool containers at risk with water spray. If possible remove containers from endangered area.

Special protective equipment for fire-fighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Additional information

Contaminated firefighting water must be disposed of in accordance with the regulations; do not allow to reach the sewage system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Precautionary measures

Ensure adequate ventilation.

Emergency procedures

Prevent access to unprotected personnel. Avoid breathing dust. Avoid contact with skin and eyes.

For emergency responders

No information.

6.2 Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. If accidental large entry into water or ground occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

For containment

No information.

For cleaning up

Collect in a suitable container and dispose of according to regulations.

Other information

No information.

6.4 Reference to other sections

See also sections 8 and 13.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling****Protective measures****Measures to prevent fire**

Ensure adequate ventilation.

Measures to prevent aerosol and dust generation

Prevent dusting.

Measures to protect the environment

No information.

Other measures

No information.

Advice on general occupational hygiene

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Do not breathe dust.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures and storage conditions**

Keep in a locked place. Keep out of the reach of children. Keep in cool and well ventilated area. Keep away from food, drink and animal feeding stuffs. Protect from open fire, heat and direct sunlight. The bait should be stored between 5 – 20 °C (41 – 68 °F). In case of temperatures higher than 25 – 30 °C, the blocks in the packaging may stick together.

Packaging materials

No information.

Requirements for storage rooms and vessels

Close opened containers after use. Put the containers upright to prevent from leaking.

Storage temperature

No information.

Storage class

No information.

Further information on storage conditions

No information.

7.3 Specific end use(s)**Recommendations**

No information.

Industrial sector specific solutions

No information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

No information.

Information on monitoring procedures

EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values. EN 482:2021 Workplace exposure. Procedures for the determination of the concentration of chemical agents. Basic performance requirements.

DNEL/DMEL values

For product

No information.

For components

No information.

PNEC values

For product

No information.

For components

No information.

8.2 Exposure controls

Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Use good personal hygiene practices – wash hands at breaks and when done working with material. Avoid contact with eyes and skin. Do not eat, drink or smoke while working. Handle in accordance with good industrial hygiene and safety practice.

Structural measures to prevent exposure

No information.

Organisational measures to prevent exposure

No information.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration.

Personal protective equipment

Eye and face protection

Safety glasses with side protection (EN 166).

Hand protection

Protective gloves (EN 374).

Appropriate materials

Material	Thickness	Penetration Time	Remark
PVC	/	/	/
Butyl rubber	/	/	/

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

Not needed under normal use and adequate ventilation. In case of dusting use respiratory protection. Use a half-mask EN 140:1998/AC:1999 with a particle filter P (EN 143:2021) or half-mask EN 149:2001+A1:2009.

Thermal hazards

No information.

Environmental exposure controls

Substance/mixture related measures to prevent exposure

No information.

Instruction measures to prevent exposure

No information.

Organisational measures to prevent exposure

No information.

Technical measures to prevent exposure
No information.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Important health, safety and environmental information

Physical state	solid
Shape	No information.
Colour	blue
Odour	mild characteristic
Odour threshold	No information.
Melting/freezing point or softening point	No information.
Boiling point or initial boiling point and boiling range	No information.
Flammability	No information.
Lower and upper explosion limit	No information.
Flash point	No information.
Auto-ignition temperature	No information.
Decomposition temperature	No information.
pH	No information.
Viscosity	No information.
Solubility (Water)	Insoluble
Partition coefficient n-octanol/water (log value)	No information.
Vapour pressure	No information.
Density / weight	No information.
Relative vapour/gas density	No information.
Particle characteristics	No information.

9.2 Other information

Information with regard to physical hazard classes

No information.

Other safety characteristics

No information.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No information.

10.2 Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3 Possibility of hazardous reactions

No information.

10.4 Conditions to avoid

Avoid high temperatures.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****(a) Acute toxicity**

For components

Name	Exposure route	Type	Species	Time	Value	Method	Remark
brodifacoum (ISO)	oral	LD ₅₀	rat	/	0.4 mg/kg bw	/	/
brodifacoum (ISO)	dermal	LD ₅₀	rat	/	3.16 mg/kg bw	/	/
denatonium benzoate	oral	LD ₅₀	rat	/	584 mg/kg	/	/
denatonium benzoate	dermal	LD ₅₀	rabbit	/	> 2000 mg/kg	/	/

(b) Skin corrosion/irritation

No information.

(c) Serious eye damage/irritation

No information.

(d) Respiratory or skin sensitisation

No information.

Additional information

May cause an allergic skin reaction.

(e) (Germ cell) mutagenicity

No information.

(f) Carcinogenicity

No information.

(g) Reproductive toxicity

No information.

Summary of evaluation of the CMR properties

May cause harm to the unborn child.

(h) STOT-single exposure

No information.

(i) STOT-repeated exposure

No information.

Additional information

May cause damage to organs through prolonged or repeated exposure.

(j) Aspiration hazard

No information.

Symptoms related to the physical, chemical and toxicological characteristics

No information.

Interactive effects

No information.

11.2 Information on other hazards

Endocrine disrupting properties

The product does not contain substances with the potential for endocrine disorders.

Other information

No information.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute (short-term) toxicity

For components

Name	Type	Value	Exposure time	Species	Organism	Method	Remark
brodifacoum (ISO)	EC ₅₀	0.04 mg/L	72 h	algae	/	/	/
brodifacoum (ISO)	EC ₅₀	0.25 mg/L	48 h	crustacea	<i>Daphnia magna</i>	/	/
brodifacoum (ISO)	LC ₅₀	0.042 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	/	/
denatonium benzoate	LC ₅₀	> 1000 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	/	/
denatonium benzoate	LC ₅₀	> 1000 mg/L	96 h	fish	<i>Salmo gairdneri</i>	/	/
denatonium benzoate	EC ₅₀	13 mg/L	48 h	crustacea	<i>Daphnia magna</i>	/	/

Chronic (long-term) toxicity

No information.

12.2 Persistence and degradability

Abiotic degradation, physical- and photo-chemical elimination

No information.

Biodegradation

No information.

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log value)

For components

Name	Value	Temperature °C	pH	Concentration	Method
denatonium benzoate	1.78	/	/	/	/

Bioconcentration factor (BCF)

No information.

12.4 Mobility in soil

Known or predicted distribution to environmental compartments

No information.

Surface tension

No information.

Adsorption/Desorption

For components

Name	Type	Criterion	Value	Evaluation	Method	Remark
denatonium benzoate	Soil	Henry constant (H)	- 1.63E-21 atm m3/mol	/	/	25 °C

12.5 Results of PBT and vPvB assessment

No evaluation.

12.6 Endocrine disrupting properties

The product does not contain substances with the potential for endocrine disorders.

12.7 Other adverse effects

No information.

12.8 Additional information

For product

No ecotoxicological data available. Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product / Packaging disposal

Waste chemical

Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Any disposal in the environment or discharging into water is prohibited.

Waste codes / waste designations according to LoW

No information.

Packaging

Deliver completely emptied containers to approved waste disposal authorities.

Waste codes / waste designations according to LoW

No information.

Waste treatment-relevant information

No information.

Sewage disposal-relevant information

No information.

Other disposal recommendations

No information.

SECTION 14: TRANSPORT INFORMATION

ADR/RID	IMDG	IATA	ADN
14.1 UN number or ID number			
Not dangerous according to transport regulations.	Not dangerous according to transport regulations.	Not dangerous according to transport regulations.	Not dangerous according to transport regulations.

14.2 UN proper shipping name			
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable
14.3 Transport hazard class(es)			
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable
14.4 Packing group			
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable
14.5 Environmental hazards			
NO	NO	NO	NO
14.6 Special precautions for user			
Limited quantities Not given/not applicable	Limited quantities Not given/not applicable		Limited quantities Not given/not applicable
14.7 Maritime transport in bulk according to IMO instruments			
	Not given/not applicable		

SECTION 15: REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2020/878)
- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)
not applicable

Ingredients according to Regulation (EC) No 648/2004 on detergents
No information.

Special instructions

Observe the regulations on employment and protection against dangerous substances for young people, pregnant women and nursing mothers.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION

Indication of changes

2.2 Label elements 2.3 Other hazards 3.2 Mixtures 6.3 Methods and material for containment and cleaning up 7.2 Conditions for safe storage, including any incompatibilities 9.1 Information on basic physical and chemical properties 9.2 Other information 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 11.2 Information on other hazards 12.1 Toxicity 12.3 Bioaccumulative potential 12.4 Mobility in soil 12.6 Endocrine disrupting properties 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Key literature references and sources for data

No information.

Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC50 - Lethal Concentration to 50 % of a test population
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals (Regulation (EC) No 1907/2006)
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet

SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

List of relevant H phrases

H300 Fatal if swallowed.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H360D May damage the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs (blood) through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
EUH071 Corrosive to the respiratory tract.



- Provided correct labelling of the product
- Compliance with the local legislation
- Provided correct classification of the product
- Provided adequate transport data

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The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.