

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier: RODEXION PELLETT

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

1.3 Details of the supplier of the safety data sheet

I.N.D.I.A. INDUSTRIE CHIMICHE S.p.A.

Address: Nona Strada 55/57 35129 Padova

Phone: +39.049.807.61.44

Fax: +39.049.807.61.46

Website: www.indiacare.it

e-mail address of the competent person responsible for the MSDS: laboratorio@indiacare.it

1.4 Emergency contacts: +39 049.807.61.44 from 8.30 to 12.30 and from 14.00 to 18.00

2. HAZARD IDENTIFICATION

2.1 Classification of mixture: is not classified dangerous

2.2 Label elements:

Pictograms: none

Hazard statements: none

Precautionary statements: S2 Keep out of the reach of children

S7 Keep container tightly closed.

S13 Keep away from food, drink and animal feedingstuffs.

S20/21 When using do not eat, drink or smoke

S24 Avoid contact with skin

S35 This material and its container must be disposed of in a safe way.

S36/37 Wear suitable protective clothing, gloves and eye/face protection.

S46 If swallowed, seek medical advice immediately and show this container or label

S49 Keep only in the original container.

2.3 Other hazards:

PBT:

vPvB:

Harmful effects, if any, are described at section 9 and 12

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	%	N° EINECS	N° CAS	Classification in compliance with 67/548/EC	Classification in compliance with EC Regulation no 1272/2008 (CLP)
Bromadiolone	0,0050	249-205-9	28772-56-7	T+,N; R26/27/28 R48/23/24/25,R50/53	Acute Tox 1 H300,H310,H330 STOT.RE H372 Aquatic Acute1 H400 Aquatic Chron 1 H410
Denatonium benzoate	0,001	223-095-2	3734-33-6	Xn,Xi; R20/22,R41,R38,R52/53	Eye damage 1 H318 Skin irrit. 2 H315 Acute Tox. 4 H302,H332 Aquatic Chronic 3 H412
Other not danger subst.	Up to 100				

The full text of risk phrases (R) and of hazard phrases (H) can be found at section 16

4. FIRST AID MEASURES

This product is not dangerous for the health but here follow there are same information about the Active ingredient Bromadiolone.

4.1 Description of first aid measures

Way of exposure:

- 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.
- 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.
- Inhalation: Bring person to open air.

4.2 Most important symptoms and effects, both acute and delayed:

Bromadiolone is a second-generation single-dose anticoagulant rodenticide. It disrupts the normal blood clotting mechanisms resulting in increased bleeding tendency and, eventually, profuse haemorrhage and death.

- Harmful to skin contact; could be absorbed and cause internal haemorrhage.
- Harmful if swallowed; serious risk of internal haemorrhage
- Harmful if inhaled; serious risk of internal haemorrhage
- Soil and water could be contaminated.
- Symptoms may be associated to increased bleeding tendency.

4.3 Indication of any immediate medical attention and special treatment needed:

Advice for the doctor: Like all anticoagulant rodenticides, bromadiolone is structurally similar to vitamin K. Blood forms a clot at the site of injury by virtue of a complicated 'clotting cascade', involving numerous clotting factors. The clotting factors are made in the liver as inactive precursors, converted to active form and allowed to circulate in the bloodstream. Vitamin K is employed in the liver in the activation process, and is used in a continuous cyclic process involving several enzymes. The anticoagulant rodenticides block these enzymes, preventing regeneration of the vitamin K and preventing activation of the clotting factors.

1. To check the prothrombinic activity many times, also after a few days, particularly if the quantity swallowed is high. Diagnosis: changes in prothrombin time (symptoms and clotting tests)
2. Treatment: vitamin K1.
3. 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.

Other Medical data:

1991-1999 115 calls related to bromadiolone (Milan Poisons Center), 98 of which involved clinical cases among humans or animals. Exposure mostly via ingestion, 55% of cases under the age of 4 years. Symptoms: Symptoms reported for 11 cases and included vomiting, gastric pyrosis itching, and haematological problems in 1 case.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media: inert gases, foam, chemical powder, CO₂. Extinguishing media which must not be used for safety reasons: water

5.2 Special hazards arising from the substance or mixture : in a fire toxic gas may be released

5.3 Advice for fire-fighters: self-contained breathing equipment and protective clothing

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Avoid contact with eyes and skin. Prevent the access of children and domestic animals.

6.2 Environmental precautions: Prevent the product from reaching surface waters. Do not contaminate foodstuffs with the product

6.3 Methods and material for containment and cleaning up: Collect the product with mechanical means, store it in tight containers and dispose of according to indications given at section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling: take all necessary measures to avoid contact. Protect eyes and skin. When using do not eat, drink or smoke

7.2 Conditions for safe storage, including any incompatibilities: keep container tightly closed in cool and dry places, out of the reach of unauthorized people, away from foodstuffs and domestic animals. Protect from direct sunlight. Keep away from ignition sources. Provide ventilation/air suction on workplaces.

7.3 Specific end use:

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

National – not applicable

EU – not applicable

Biological – not applicable

DNEL – not applicable

PNEC - not applicable

8.2 Exposure controls:

Respiratory Protection: not necessary

Hand protection: Gloves for chemical products. Periodical replacement required.

Eye protection: Goggles

Skin protection: Suitable protective clothing. Periodical replacement required.

All usual precautions for chemical products handling should be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Physical state: solid

Colour : red

Odour: characteristic

pH: 7,06

Flash point: 291.8°C

Flammability: not highly flammable

Comparative density: 1.276g/ml

9.2 Other information:

10. STABILITY AND REACTIVITY

10.1 Reactivity: none

10.2 Chemical stability: stable in original unopened package and at recommended storage conditions

10.3 Possibility of hazardous reactions: none

10.4 Conditions to avoid: none

10.5 Incompatible materials: none

10.6 Hazardous decomposition products: none

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral toxicity: LD50 rat: 5000 mg/kg bw (study n° JRF 401-1-01-1856 of JAI research foundation-2011)
Rodexion Pellet is not eye irritant (study n° JRF 407-1-01-1859 of JAI research foundation-2011)
Rodexion Pellet is not skin irritant (study n° JRF 406-1-01-1858 of JAI research foundation-2011)
Guinea pig dermal sensitization: not sensitizing (study n° JRF 408-1-01-1860 of JAI research foundation-2011)

12. ECOLOGICAL INFORMATION

Rodexion Pellet is not dangerous for the environmental but below ecotoxicological information on the dangerous substances is provided:

12.1 Toxicity:

Bromadiolone: Toxic effects on fish, plankton and other organisms. Limited risk for the waters.

Oncorhynchus mykiss 96 h LC50 = 2.86 mg/L (nominal)

Daphnia magna 48 hours immobilization EC50 = 5.79 mg/L (nominal)

Pseudokirchneriella subcapitata 72 hours growth inhibition (gr) ErC50 = 1.14 mg/L
(geometric mean of the initial measured conc. and half the LOQ)

Activated sludge 3 hours respiration inhibition EC50 = 132.8 mg/L (extrapolated)

Effects on earthworms or other soil non-target organisms

Acute toxicity to *Eisenia fetida* 13 days LC50 = 918 mg/L wet soi

Effects on terrestrial vertebrates

Acute toxicity to mammals LD50 = 1.31 mg/kg bw (rat)

Acute toxicity to birds LD50 = 134 mg/kg bw (Japanese quail)

Dietary toxicity to birds 10-day LC50 = 28.9 mg/kg food

Reproductive toxicity to birds NOEC = 0.26 mg/L drinking water (Japanese quail)

Denatonium benzoate:

Fishes LC50 (96h) : >1000mg/L

LC50 (shrimp)(96h): >400mg/L

Daphnia magna EC50 (48h):13mg/L

12.2 Persistence and degradability:

Bromadiolone: Bromadiolone is not readily biodegradable under environmentally relevant conditions or during sewage treatment processes. Route and rate of degradation in water: No hydrolysis was found at the investigated pH 7 and 10, so hydrolysis of bromadiolone is not expected to be a significant process in the environment. pH 9, 50°C: no hydrolysis of bromadiolone during the 120 days test.

Photolytic/photo-oxidative degradation Natural sunlight at latitude 52° N, aqueous solution:

DT50 = 2.98 minutes (summer) and 30.4 minutes (winter) at a quantum yield of 0.25.

DT50 = 74.5 minutes (summer) and 768 minutes (winter) at a quantum yield of 0.01.

Denatonium benzoate:

In water: abiotic degradation 10% after 30 days at 25°C all Ph values

12.3 Bioaccumulative potential:

Bromadiolone: Bioconcentration tests failed due to high mortalities. BCF (calculated from a log Kow of 3.8) = 339.

Denatonium benzoate: LogPow=0,9

12.4 Mobility in soil:

Bromadiolone: Soil distribution (partition) coefficient (KD): 71.2-1250 mL/g (adsorption) Soil adsorption coefficient normalized for organic carbon content (KOC): 3530 to 41600 mL/g (adsorption), average value 14770 mL/g used for calculations. No pH dependence observed.

Bromadiolone is considered slightly mobile to non-mobile in soil

Denatonium benzoate: N.D.

12.5 Results of PBT and vPvB assessment:

Bromadiolone: P screening criterion for water is fulfilled and in addition, bromadiolone fulfils the soil P criterion of REACH taking the toxic and persistent metabolites into consideration.

B screening is under revision. T criterion is fulfilled for bromadiolone. To summarize, the uncertainties with regard to the B-criterion cannot be clarified at the moment and bromadiolone should be considered as a potential PBT substance.

Denatonium benzoate: N.D.

12.6 Other adverse effects:

Bromadiolone: N.D.

Denatonium benzoate: N.D.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: dispose of as toxic waste

14. TRANSPORT INFORMATION

14.1 UN number:

14.2 UN proper shipping name:

14.3 Transport hazard class:

14.4 Packing group:

Transport classification:

Marine pollutant:

IMO:

IATA:

15. REGULATORY INFORMATION

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

15.2 Chemical safety assessment: no chemical safety assessment has been conducted for the compound and the substances therein contained.

16. OTHER INFORMATION

Integral text of H, R phrases:

H300 Fatal if swallowed

H302 Harmful if swallowed

H310 Fatal in contact with skin

H315 Causes skin irritation

H318 Causes serious eye damage

H330 Fatal if inhaled

H332 Harmful if inhaled

H372 Causes damage to organs (state all organs affected, if known) through prolonged or repeated exposure

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

R26/27/28 Very toxic if inhaled by contact with skin and if swallowed

R48/23/24/25 Toxic: danger of serious damage to health by prolonged exposure if inhaled, in contact with skin and swallowed

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Other information: **DISCLAIMER OF LIABILITY.** The information in this MSDS was obtained from sources which we believe are reliable.

However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable

Bibliography: The Pesticide Manual

HSDB Hazardous Substances Data Bank

MSDS of raw materials