

**Section 1 - Identification of The Material and Supplier**

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**Telephone (02)9431 7800 (office hours)**  
**Emergency 1800 024 973 (24 hours)**  
**Fax (02)9431 7700**

**Chemical nature:** Brodifacoum is a coumarin based anticoagulant.  
**Trade Name:** **Rodex B Rat Blocks**  
**APVMA Code:** 50363  
**Product Use:** Rodent control product for uses as described on product label.  
**Creation Date:** **November, 2002**  
**This version issued:** **July, 2016** and is valid for 5 years from this date.  
**Poisons Information Centre: Phone 13 1126 from anywhere in Australia**

**Section 2 - Hazards Identification****Statement of Hazardous Nature**

This product is classified as: Hazardous according to the criteria of SWA Australia.

Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

**SUSMP Classification:** S6

**ADG Classification:** None allocated. Not a Dangerous Good.

**UN Number:** None allocated

**GHS Signal word: DANGER**

Acute Toxicity Oral Category 4

Specific Target Organ toxicity - repeated exposure Category 1

**HAZARD STATEMENT:**

H302: Harmful if swallowed.

H372: Causes damage to organs through prolonged or repeated exposure.

**PREVENTION**

P102: Keep out of reach of children.

P260: Do not breathe dusts.

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

P264: Wash contacted areas thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P281: Use personal protective equipment as required.

**RESPONSE**

P314: Get medical advice or attention if you feel unwell.

P352: Wash with plenty of soap and water.

P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P370+P378: Not combustible. Use extinguishing media suited to burning materials.

**STORAGE**

P402+P404: Store in a dry place. Store in a closed container.

**DISPOSAL**

P501: Dispose of contents and containers as specified on the registered label.

**Emergency Overview**

**Physical Description & colour:** Blue blocks.

**Odour:** Mild odour.

**SAFETY DATA SHEET**



**Major Health Hazards:** Harmful if swallowed. This product is a cumulative poison. Minor exposures over a period of time may lead to serious health problems. Due to its low bait concentration and its delayed effect it is considered to be only of low acute toxicity hazard to humans.

### Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Brodifacoum	56073-10-0	0.005	not set	not set
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

### Section 4 - First Aid Measures

#### General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia and is available at all times. Have this SDS with you when you call.

**Inhalation:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

**Skin Contact:** No specific health data is available for this product. If any unusual symptoms become evident, or if in doubt, contact a Poisons Information Centre or a doctor.

**Eye Contact:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

### Section 5 - Fire Fighting Measures

**Fire and Explosion Hazards:** There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade.

**Flash point:** Not flammable.

**Upper Flammability Limit:** No data.

**Lower Flammability Limit:** No data.

**Autoignition temperature:** No data.

**Flammability Class:** No data.

### Section 6 - Accidental Release Measures

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include cotton, rubber. Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

### Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

## SAFETY DATA SHEET



**Storage:** This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this class of poison. Make sure that containers of this product are kept tightly closed. Make sure that the product does not come into contact with substances listed under "Materials to avoid" in Section 10. Check packaging - there may be further storage instructions on the label.

## Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

**SWA Exposure Limits**                      **TWA (mg/m<sup>3</sup>)**                      **STEL (mg/m<sup>3</sup>)**

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Brodifacoum is set at 0.0000005mg/kg/day. The corresponding NOEL is set at 0.001mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, June 2014.

**Ventilation:** No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that dusts are minimised.

**Eye Protection:** Eye protection is not normally necessary when this product is being used. However, if in doubt, wear suitable protective glasses or goggles.

**Skin Protection:** The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when handling this product.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: cotton, rubber.

**Respirator:** If there is a significant chance that dusts are likely to build up in the area where this product is being used, we recommend that you use a suitable Dust Mask.

## Section 9 - Physical and Chemical Properties:

<b>Physical Description &amp; colour:</b>	Blue blocks.
<b>Odour:</b>	Mild odour.
<b>Boiling Point:</b>	Not applicable.
<b>Freezing/Melting Point:</b>	Decomposes before melting.
<b>Volatiles:</b>	No specific data. Expected to be low at 100°C.
<b>Vapour Pressure:</b>	No data.
<b>Vapour Density:</b>	No data.
<b>Specific Gravity:</b>	No data.
<b>Water Solubility:</b>	No specific data. Expected to be insoluble.
<b>pH:</b>	No data.
<b>Volatility:</b>	No data.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Coeff Oil/water distribution:</b>	No data.
<b>Autoignition temp:</b>	No data.

## Section 10 - Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** This product should be kept in a cool place, preferably below 30°C.

**Incompatibilities:** strong acids, strong bases, strong oxidising agents.

**Fire Decomposition:** Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product is unlikely to undergo polymerisation processes.

## Section 11 - Toxicological Information

**Toxicity:** Brodifacoum is a bromylated hydroxycoumarin derivative; an indirect anti-coagulant; and an effective stomach poison which inhibits prothrombin formation and induces capillary damage. To be effective it usually requires

### SAFETY DATA SHEET



only a single ingestion of a bait formation in one feeding to produce a kill. It is extremely toxic to a broad spectrum of rodents and other small mammals but due to its low bait concentration and its delayed effect it is considered to be only of low acute toxicity hazard to humans. Brodifacoum acts through the interruption of the vitamin K1-epoxide cycle, preventing vitamin K activation rather than depleting its body reserves.

The anticoagulant effect of Brodifacoum may last for more than 7 weeks in the poisoned patient.

Ingestion of Brodifacoum is initially asymptomatic, and may continue as such even with prolonged alterations in prothrombin time. No gastrointestinal tract or other symptomatology occurs. Coagulation disturbances may become evident a few days after ingestion, and may be detected only by laboratory studies. In severe poisoning, gum-bleeding, epistaxis, petechiae, ecchymoses, haematomata, blood in urine and faeces, and genital haemorrhage may occur. Internal bleeding and cerebral haemorrhage may complicate the patient's prognosis.

The course of poisoning is characteristically long. Alterations of coagulation parameters and clinical symptoms of bleeding may be maintained for several days if no treatment is provided. The prognosis is poor in cases with internal bleeding or intracerebral haemorrhage, and also in patients with previous haematological illnesses or renal insufficiency. Death however, is uncommon.

Oral LD<sub>50</sub>:

Rats (M) 0.27 mg/kg

Mice (M) 0.40 mg/kg

Rabbits (M) 0.30 mg/kg

Guinea-pigs 0.28 mg/kg

Cats 0.25 mg/kg

Dogs 0.25 mg/kg

### Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Brodifacoum	No risk phrases at concentrations found in this product
	<ul style="list-style-type: none"><li>Acute toxicity - category 1</li><li>Acute toxicity - category 2</li><li>Specific target organ toxicity (repeated exposure) - category 1</li><li>Hazardous to the aquatic environment (acute) - category 1</li><li>Hazardous to the aquatic environment (chronic) - category 1</li></ul>

### Potential Health Effects

See section 11 for Chronic exposure studies.

#### Inhalation

**Short term exposure:** Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.

#### Skin Contact:

**Short term exposure:** Available data indicates that this product is not harmful. It should present no hazards in normal use. In addition product is unlikely to cause any discomfort in normal use.

#### Eye Contact:

**Short term exposure:** Available data shows that this product is not harmful. In addition this product is believed to be not irritating to eyes.

#### Ingestion:

**Short term exposure:** Available data shows that this product is harmful, but symptoms are not available. This product is unlikely to cause any irritation problems in the short or long term.

#### Carcinogen Status:

**SWA:** No significant ingredient is classified as carcinogenic by SWA.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

### Section 12 - Ecological Information

This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Brodifacoum does not enter the atmosphere, because of its low volatility. It is practically insoluble in water.

Brodifacoum is strongly bound on soil particles and is not taken up by plants. The rate of degradation is relatively slow and depends on soil type. Residues in crops have never been detected in field studies.

Brodifacoum is not intended for direct application to growing crops or for use as a food additive. No information is available on concentrations in air, water, and soil. Residues of Brodifacoum were detected in dead barn owls in the United Kingdom at levels of 0.019-0.515 mg/kg. Brodifacoum residues were also found in the liver, muscle, and fatty

### SAFETY DATA SHEET



tissues of rabbits, intentionally poisoned during field trials with baits containing 0.005% active ingredient, at concentrations of 4.4, 0.26, and 0.86 mg/kg, respectively.

The solubility of Brodifacoum in water is low and, in bait formulation, its use is unlikely to be a source of water pollution. As a technical material, it is highly toxic for fish. Brodifacoum appears to bind rapidly in the soil with very slow desorption and without leaching. Non-target organisms are potentially at risk in two ways: from direct consumption of baits (primary hazard) and through eating poisoned rodents (secondary hazard).

Bird species vary in their susceptibility to Brodifacoum. The main reason for the poisoning of domestic animals is direct consumption of Brodifacoum baits. Brodifacoum shows a similar range of acute toxicity for non-target and target mammals. The primary hazard is usually expressed by the amount of finished bait that must be consumed to approach the lethal dose. Some secondary toxicity laboratory studies on wildlife have shown that captive predators could be intoxicated by the no-choice feeding of Brodifacoum-poisoned or dosed prey. The significance of these results in terms of hazard under field conditions is difficult to assess, because the predators would not be expected to eat only poisoned animals. However, predators may take poisoned, but not dead, small mammals preferentially. In areas close to baiting, poisoned rodents may represent a high proportion of the diet for individual birds. However, only few individuals will be affected, unless there has been very widespread and constant use of the baits.

### Section 13 - Disposal Considerations

**Disposal:** Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

### Section 14 - Transport Information

**UN Number:** This product is not classified as a Dangerous Good by ADG, IATA or IMDG/IMSBC criteria. No special transport conditions are necessary unless required by other regulations.

### Section 15 - Regulatory Information

**AICS:** All of the significant ingredients in this product are compliant with NICNAS regulations.

### Section 16 - Other Information

**This SDS contains only safety-related information. For other data see product literature.**

#### Acronyms:

<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>CAS number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Code</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
<b>IARC</b>	International Agency for Research on Cancer
<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<b>NOS</b>	Not otherwise specified
<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSMP</b>	Standard for the Uniform Scheduling of Medicines & Poisons
<b>UN Number</b>	United Nations Number

#### Contact Points:

Call Adama on (02)9431 7800 and ask for the technical manager.

Fax: (02)9431 7700

**Police and Fire Brigade:**

**Dial 000**

**Emergency contact:**

**1800 024 973 (24 hours)**

**If ineffective:**

**Dial Poisons Information Centre  
(13 1126 from anywhere in Australia)**

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

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Issued by: Adama Australia Pty Ltd

Phone: (02)9431 7800 (office hours)

**Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)**



OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)

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