
SECTION 1 - IDENTIFICATION OF CHEMICAL PRODUCT AND COMPANY

Rentokil Initial Pty Ltd
150 Mowbray Rd
Willoughby NSW 2068 ABN 98 000 034 597

Emergency Telephone
(02)9370 9300 (24 hours)

Substance: Bromodiolaone is a coumarin based anticoagulant.

Trade Name: Rentokil Bromakil Range of Products

Other Names: This MSDS covers the Bromakil range including Super Rat Bait Sachets & Blocks, Bromakil-P

Product Code: 33908, 33909, 33910, 33911, 47617 and 48145

Product Use: For the control of rats and mice as indicated on product label.

Creation Date: February, 2004

Revision Date: January, 2005

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Not classified as hazardous according to the criteria of NOHSC Australia. Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R33. Danger of cumulative effects.

Safety Phrases: Not Hazardous - No criteria found.

SUSDP Classification: S6

ADG Classification: None allocated. Not a Dangerous Good.

UN Number: None allocated

Emergency Overview

Physical Description & colour: Green coloured grains, pellets or blocks depending on the particular product.

Odour: Various odours, depending on carrier.

Major Health Hazards: may have cumulative effects. This product is a cumulative poison. Minor exposures over a period of time may lead to serious health problems.

Potential Health Effects

In most cases of ingestion of anticoagulants, victims have remained asymptomatic, due to the small dosage taken. Even in cases involving ingestion of substantial amounts of anticoagulant compound (more often medication than rodenticide), hypoprothrombinaemia has occurred without symptoms of poisoning. Haemorrhage appears only when extraordinary amounts have been absorbed. In reported cases, the anticoagulants were either taken deliberately, were absorbed over long periods out of neglect of elementary hygienic standards, or were ingested by starving indigents who used quantities of rodent bait as food. Victims of large doses exhibit haematuria, nosebleed, haematomata, bleeding gums, and melena, abdominal pain and back pain probably reflecting haemorrhage in the abdominal and retroperitoneal tissues. Weakness occurs as a result of anaemia. Renal colic often complicates severe haematuria. Nasal and gastrointestinal haemorrhages have occasionally caused death from exsanguination

If poisoning is suspected, do not wait for symptoms to develop. Contact a physician, the nearest hospital, or the nearest Poison Control Center.

Inhalation

Short term exposure: Significant inhalation exposure is considered to be unlikely. Long term inhalation of high amounts of any nuisance dust may overload lung clearance mechanism. Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.

Long Term exposure: Believed to be cumulative by inhalation route.

Skin Contact:

Short term exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be mildly irritating, but is unlikely to cause anything more than mild discomfort which should disappear once contact ceases.

Long Term exposure: Believed to be cumulative by dermal exposure.

Eye Contact:

Short term exposure: Exposure via eyes is considered to be unlikely. This product may be mildly irritating to eyes, but is unlikely to cause anything more than mild discomfort which should disappear once product is removed.

Long Term exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short term exposure: Significant oral exposure is considered to be unlikely. This product is unlikely to cause any irritation problems in the short or long term.

Long Term exposure: Long term minor exposures to this product may cause serious health effects. Believed to be cumulative by ingestion.

Carcinogen Status:

NOHSC: No significant ingredient is classified as carcinogenic by NOHSC.

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

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

Section 3 - Composition/Information on Ingredients

Ingredients (mg/m³)	CAS No	Conc,%	TWA (mg/m³)	STEL
Bromadiolone	28772-56-7	0.005	not set	not set
Carrier (lard, grain and/or other) set	not set	not set	to 100	not
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

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 (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

Treatment with Vitamin K1 is antidotal, and is the best form of treatment for poisoning.

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

Skin Contact: If significant skin contact occurs, wash gently and thoroughly with water (use non-abrasive soap if necessary) for 10 minutes or until chemical is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts). Contact a Poisons Information Centre, or call a doctor.

Eye Contact: Quickly and gently blot or brush away product. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water until the product is removed or until a few minutes after irritation has ceased, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical advice if irritation becomes painful or lasts more than a few minutes.

Ingestion: If swallowed, rinse mouth thoroughly with water and contact a Poisons Information Centre, or call a doctor at once.

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 rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that dusts are likely to build up in cleanup area, we recommend that you use a suitable Dust Mask.

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. Consider vacuuming if appropriate. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. 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 MSDS 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.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this class of poison. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. 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**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

Exposure Limits

TWA (mg/m³)

STEL (mg/m³)

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

The ADI for Bromadiolone is set at 0.000002mg/kg/day. The corresponding NOEL is set at 0.004mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Aug 2003.

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: rubber, PVC.

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:

Physical Description & colour: Green coloured grains, pellets or blocks depending on the particular product.

Odour: Various odours, depending on carrier.

Boiling Point: Not applicable.

Freezing/Melting Point: Decomposes before melting.

Volatiles: No specific data. Expected to be low at 100 °C.

Vapour Pressure: No data.

Vapour Density: No data.

Specific Gravity: Various.

Water Solubility: Negligible.

pH: No data.

Volatility: No data.

Odour Threshold: No data.

Evaporation Rate: No data.

Coeff Oil/water distribution: No data

Autoignition temp: 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: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: strong oxidising agents.

Fire Decomposition: No specific data. Based on composition of proteins and fats, the following might be expected: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. 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

Local Effects:

Target Organs: This product will attack blood, reducing prothrombin rating.

Classification of Hazardous Ingredients

Ingredient

Risk Phrases

No ingredient mentioned in the List of Designated Hazardous Substances is present in this product at hazardous concentrations.

In 90-day feeding trials the only effect observed in rats and dogs was reduction of prothrombin rating

	Body Weight	LD ₅₀ mg/kg	Lethal dose of bait
Adult	70kg	1-10*mg/kg	1-14kg
Child	20kg	1-10*mg/kg	0.3-4kg
Dog	10kg	10mg/kg	2kg
Cat	2kg	25mg/kg	1kg

* Estimate only - no accurate data available for humans.

Accidental poisoning of a dog:

- Acute toxicity - a 10kg dog would need to eat 2kg of bait to be fatal.
- Chronic toxicity - a 10kg dog would need to eat 4g/day of bait over 60 days to endanger its life.

Antidotal Therapy (for a dog).

- - same for acute and chronic poisoning
- i) Intravenous injection of Vitamin K1, 24 hours apart, at the rate of 5mg/kg followed by,
- ii) oral administrations of Vitamin K1, 24 hours apart, at the rate of 5mg/kg

Section 12 - Ecological Information

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

Section 13 - Disposal Considerations

Disposal: Containers should be emptied as completely as practical before disposal. If possible, recycle containers either in-house or send to recycle company. If this is not practical, send to a commercial waste disposal site. This product should be suitable for landfill. However, check with local Waste Disposal Authority before sending there. Note that product properties may have been changed in use, significantly altering its suitability for landfill. Please do NOT dispose into sewers or waterways.

Section 14 - Transport Information

ADG Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are to be found in the public AICS Database. The following ingredient: Bromodialone is mentioned in the SUSDP.

Section 16 - Other Information

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

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail
AICS	Australian Inventory of Chemical Substances
CAS number	Chemical Abstracts Service Registry Number
Hazchem Number	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOHSC	National Occupational Health and Safety Commission
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
UN Number	United Nations Number

THIS MSDS 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 MSDS 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

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 MSDS is prepared in accord with the NOHSC document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]
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