Section 1 - Identification

PCT Holdings Pty Ltd **Phone: 1800 630 877 (all hours)**
5/74 Murdoch Circuit
Acacia Ridge QLD 4110 AUSTRALIA

Chemical nature: Rodenticide pellets containing brodifacoum.

Trade Name: **Surefire Brodi Pellets**

APVMA Code: 67610

Product Use: Rodenticide for use as described on the product label.

Creation Date: **March, 2023**

This version issued: **March, 2023** 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

SUSMP Classification: S6

ADG Classification: None allocated. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

UN Number: None allocated

GHS Signal word: NONE. Not hazardous.

HAZARD STATEMENT:

There appear to be no hazards associated with this product.

PREVENTION

P101: If medical advice is needed, have product container or label at hand.
P102: Keep out of reach of children.
P103: Read label before use.
P261: Avoid breathing 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.
P272: Contaminated work clothing should not be allowed out of the workplace.

RESPONSE

P335: Brush off loose particles from skin.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P370+P378: In case of fire: Use carbon dioxide, dry chemical, foam, water fog, to extinguish.

STORAGE

P405: Store locked up.
P410: Protect from sunlight.
P402+P404: Store in a dry place. Store in a closed container.
P403+P235: Store in a well-ventilated place. Keep cool.

DISPOSAL

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

Emergency Overview

Physical Description & Colour: Pale green pellets.

Odour: Wheaty odour.

Section 3 – Composition and Information on Ingredients

Ingredients	CAS No	Conc, g/kg	TWA (mg/m^3)	STEL (mg/m^3)
Brodifacoum	56073-10-0	0.05	not set	not set
Other non hazardous ingredients	secret	to 1 kg	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 SWA 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 may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated 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 (0800 764 766 in New Zealand) 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: Gently brush away excess particles. Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.
Eye Contact: Quickly and gently brush particles from eyes. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. Take special care if exposed person is wearing contact lenses.
Ingestion: If product is swallowed or gets in mouth, do NOT induce vomiting. Wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. 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: In case of fire, use carbon dioxide, dry chemical, foam or water fog.
Fire Fighting: When fighting fires involving significant quantities of this product, no special equipment is believed to be necessary.

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 and Nitrile. 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. Otherwise, not normally necessary.
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. 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.
Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Protect this product from light. 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 "Incompatibilities" 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^3)**	**STEL (mg/m^3)**

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

NOEL means No-observable-effect-level. Data from Australian ADI List, March 2017.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.

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 lengthy skin contact is likely.

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

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:	Pale green pellets.
Odour:	Wheaty odour.
Freezing/Melting Point:	No specific data. Solid at normal temperatures.
Boiling Point:	Not available.
Flash point:	No data
Upper Flammability Limit:	No data.
Lower Flammability Limit:	No data.
Flammability Class:	No data.
Volatiles:	No data.
Vapour Pressure:	No data.
Vapour Density:	Not applicable.
Specific Gravity:	Approx 0.7
Water Solubility:	Insoluble.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	Not applicable.
Coeff Oil/water Distribution:	No data
Particle Characteristics:	Pellets.
Viscosity:	Not applicable.
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: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: oxidising agents.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. 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 will not undergo polymerisation reactions.

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 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 LD50:

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

There is no data to hand indicating any particular target organs.

Major Health Hazards: 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.

Classification of Hazardous Ingredients

Ingredient	Health Hazard Statement Codes
Brodifacoum	H360D, H330, H310, H300, H372, H410

- Reproductive toxicity – category 1A
- Acute toxicity – category 1
- Acute toxicity – category 1
- Acute toxicity – category 1
- Specific target organ toxicity (repeated exposure) – category 1
- Hazardous to the aquatic environment (acute) – category 1
- Hazardous to the aquatic environment (chronic) – category 1

Potential Health Effects

Inhalation:
Short Term Exposure: Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.
Long Term Exposure: No data for health effects associated with long term inhalation.

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

Eye Contact:
Short Term Exposure: This product is believed to be not irritating to eyes.
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. Available data shows that this product is not harmful. This product is unlikely to cause any irritation problems in the short or long term.
Long Term Exposure: Effects are detailed above.

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

Insufficient data to be sure of status.
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 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 formulation are compliant with AICIS regulations.
The following ingredient: Brodifacoum, is mentioned in the SUSMP.

Section 16 - Other Information

This SDS 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 (7th edition)
AICS/AIIC	Australian Inventory of Industrial Chemicals
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

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

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” (July 2020) and GHS Revision 7

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