

SAFETY DATA SHEET

Section 1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

Product Name:	TALON WB
Design Code:	A12705B / A12720C
Recommended Use:	For the control of rats and mice in damp or dry situations in and around buildings.
Company Details:	Syngenta Crop Protection Limited
Address:	Tower II, Level 7, 110 Symonds Street Private Bag 92618, Symonds Street AUCKLAND NEW ZEALAND
Telephone number:	(weekdays) 09 - 306 1500
Emergency Telephone number:	(24 Hours) 0800 734 607
National Poisons & Hazchem Information Centre :	0800 POISON (0800 764 766)
Date of Preparation:	16 April, 2012

Section 2: HAZARDS IDENTIFICATION

Hazard classification:	6.1E, 6.9B, 9.1D
Priority Identifier:	WARNING KEEP OUT OF REACH OF CHILDREN
Secondary Identifiers:	6.1E = May be harmful if swallowed, inhaled or absorbed through the skin. 6.9B = May cause damage to the blood and hematopoietic system from repeated oral exposure at high doses. 9.1D = Harmful to aquatic organisms.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

<i>Pure Substance:</i>	
Chemical Identity of pure substance:	3-[3-(4'-bromo-[1,1'-biphenyl]-4-yl)-1,2,3,4-tetrahydro-1-naphthalenyl]-4-hydroxy-2H-1-benzopyran-2-one
Common Name:	Brodifacoum
Synonyms:	PP581
CAS number:	56073-10-0

<i>Mixture:</i>		
Chemical Identity of ingredients:		
Ingredient	CAS no.	Content (% w/w)
Brodifacoum (technical grade)	56073-10-0	0.005
Propane-1,2-diol	57-55-6	<0.5
Bitrix (bittering agent)	---	<1
other ingredients determined not to be hazardous	-	to 100%

Section 4: FIRST AID MEASURES

Necessary First Aid measures:	<p>In case of poisoning by any exposure route get to a doctor or hospital quickly. For advice contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.</p> <p>Swallowed: HUMANS: Rinse mouth with water. Give plenty of water to drink. If vomiting occurs give further water. Seek medical advice.</p> <p>DOMESTIC ANIMALS: If severe signs of poisoning, immediately transport to veterinarian. For early signs of poisoning, transport to veterinarian. No signs but suspected bait consumption, induce vomiting only if ingestion is recent (less than six hours). Make up a solution of salty water (2-3 tablespoons salt in a cup of water), place in a soft drink bottle and squirt down animal's throat. Vomiting should take place in approximately 10 minutes. Seek veterinarian's advice.</p> <p>Eye: If contact with eyes occurs rinse immediately with plenty of water, also under the eyelids for at least 15 minutes. Remove contact lenses.</p> <p>Skin: If skin contact occurs remove contaminated clothing and wash affected areas thoroughly with running water.</p> <p>Inhaled: Move the victim to fresh air immediately.</p>
Poisoning symptoms:	<p>The poisoning symptoms observed for laboratory mammals were non-specific.</p> <p>MILD EXPOSURE: reduction in the clotting power of blood, detectable only by laboratory analysis.</p> <p>MODERATE EXPOSURE: symptoms include bleeding gums, increased tendency to bruise, blood in faeces and urine or excessive bleeding from minor cuts or abrasions.</p> <p>SEVERE EXPOSURE: severe gastrointestinal bleeding, massive internal bleeding resulting in shock, coma and death in very severe cases.</p>
Workplace facilities:	<p>No specific facilities required. Standard emergency equipment must be available.</p>
Hygiene Practices:	<p>Avoid contact with skin and eyes. When applying, wear gloves. If clothing becomes contaminated with product, remove clothing immediately. DO NOT eat, drink or smoke while using. Wash hands and exposed skin thoroughly with soap and water before meals and after work. Wash protective clothing daily after work.</p>

Section 4: FIRST AID MEASURES continued

Notes for Medical Personnel:

NOTE TO PHYSICIANS AND VETERINARIANS:

Brodifacoum, the active constituent of TALON WB, is a long lasting anticoagulant chemical, which if ingested by humans, domestic animals or pets, can reduce the clotting power of the blood and haemorrhage may result. Vitamin K1 (Phytomenadione) should be administered urgently by medical, appropriate para-medical personnel or veterinarians. If administered intravenously the injection must be given slowly.

This product contains anticoagulants with an effect similar to warfarin in that they act by interfering with the synthesis of prothrombin.

HUMANS: The specific measure of effect is the prothrombin time. Note: this may not become prolonged until 12-18 hours after ingestion. The specific antidote is vitamin K1 (Phytomenandione). Antidote must be administered under medical supervision. Initially, antidote should be given by injection (10-20 mg, or 0.25 mg/kg for children, by slow intravenous infusion at a rate not exceeding 1mg/minute. In severe cases the use of fresh frozen plasma may be required). Maintenance treatment is given orally (40 mg/day in divided doses for adults; up to 20 mg/day in divided doses for children). The prothrombin time and the haemoglobin should be monitored. Patients should be kept under medical supervision until the prothrombin time has been normal for 3 consecutive days. Oral treatment may need continuing for several months (20 mg/day in divided doses for adults and up to 20 mg/day in divided doses for children).

DOMESTIC ANIMALS EXHIBITING SIGNS OF INTOXICATION:

1. Carry out a prothrombin test. Administer parentally 2-5mg/kg of Vitamin K1. Use the smallest diameter needle feasible and avoid the intravenous route in severely haemorrhagic animals.
2. Repeat prothrombin test about four hours after injection. Provided that the prothrombin time has normalised start daily oral vitamin K1 treatment and continue for three to four weeks.
3. Carry out a prothrombin test 24-48 hours after end of treatment. Continue treatment if signs of poisoning reappear or if prothrombin time is still abnormal.

DOMESTIC ANIMALS SUSPECTED OF CONSUMING BAIT:

1. Test prothrombin time daily for up to three days after suspected date of ingestion.
2. Treat with Vitamin K1 if signs of poisoning appear or if prothrombin time increases.
3. Prophylactic oral Vitamin K1 treatment could be carried out.

Refer to the document "The Treatment of Anticoagulant Rodenticide Poisoning" (1998 or later edition) available at most major treatment hospitals, National Poisons Centre or Syngenta Crop Protection Ltd.

Section 5: FIRE-FIGHTING MEASURES

Type of Hazard:	This product is combustible.
Fire Hazard Properties:	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Combustion or thermal decomposition will evolve toxic and irritant vapours. Exposure to decomposition products may be a hazard to health.
Regulatory Requirements:	not required
Extinguishing Media and methods:	<p><i>Small fires</i> Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Do not use a solid water stream as it may scatter and spread fire.</p> <p><i>Large fires</i> Use alcohol-resistant foam or water spray. Do not use a solid water stream as it may scatter and spread fire.</p> <p>DO NOT allow run-off from fire fighting to enter drains or water ways. Cool closed containers exposed to fire with water spray.</p>
Hazchem Code:	not required
Recommended Protective Clothing:	When fighting a major fire wear full protective clothing and self contained breathing apparatus.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:	<p>Emergency Procedures: Ensure suitable personal protection during removal of spillages. This means wearing eye protection, chemically resistant gloves, boots and overalls.</p>
Environmental Precautions:	Washings must be prevented from entering surface water drains or waterways.
Procedure for spill:	<ol style="list-style-type: none">(1) Keep all bystanders away.(2) Reposition any leaking containers so as to minimise further leakage.(3) Shovel the spill into drums.(4) Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.
Procedure for Disposal:	<p>Disposal of the material will depend upon the extent of the spill. Contaminated material must be disposed of in accordance with all local authority requirements.</p> <p>It is suggested:</p> <ul style="list-style-type: none">• For quantities up to 50 kg of product bury in a secure approved landfill site.• For quantities greater than 50 kg seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established.

Section 7: HANDLING AND STORAGE

Handling:	
Precautions for safe handling:	No special technical protective measures required. No special handling advice required.
Regulatory Requirements:	Not applicable
Handling practices:	Avoid contact with skin and eyes When using, do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking.
Approved Handlers:	Not required.

Storage:	
Conditions for Safe Storage:	Keep out of reach of children. Keep in original containers and tightly closed. Keep away from food, drink and animal feeding stuffs. Store in a cool, dry, well ventilated place and protect from sunlight
Store Site Requirements:	Signage will be required at sites holding 1000 kg or more and secondary containment at sites holding 10,000 kg or more of any product classified as 9.1D (eg TALON WB).
Packaging:	Store in original container, tightly closed, away from foodstuffs. Containers which have held bait should not be used for any other purpose.

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS AND WARNINGS

Workplace Exposure Guidelines:	
Workplace Exposure Standards:	Propane-1,2-diol (particulates) 8 h TWA: 10 mg/m ³ National Exposure Standards Brodifacoum 8 hr TWA: 0.002 mg/m ³ Syngenta Exposure Standards
Application in the workplace:	Not required
Exposure standards outside the workplace:	
Engineering controls:	No special requirements. Product is used indoors and outdoors. Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Follow precaution statements on the label and the use and safety directions in Code of Practice for the Management of Agrichemical NZS8409.
Personal Protection:	Use only protective equipment bearing the mark of the Standards Association with Australia/ New Zealand. In case of heavy exposure, resistant gloves and heavy duty cotton overalls.
General Hygiene:	Change work clothes daily. . Avoid contact with eyes and skin. If product gets on skin immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue wax block
Odour:	Odourless
Melting Point:	>40°C
Vapour Pressure:	Not available
Bulk Density:	1.15 g/cm ³
Flashpoint:	Not applicable
Flammability:	Not applicable
Combustibility:	Combustible
Solubility in Water:	insoluble

Section 10: STABILITY AND REACTIVITY

Stability of the Substance:	Stable under standard conditions.
Conditions to Avoid:	None known
Material to Avoid:	none known
Hazardous decomposition products	Combustion or thermal decomposition will evolve toxic and irritant vapours.
Hazardous polymerisation	not applicable
Specific Data	not applicable

Section 11: TOXICOLOGICAL INFORMATION

HSNO Classifications:

- 6.1E = May be harmful if swallowed, inhaled or absorbed through the skin.
6.9B = May cause damage to the blood and hematopoietic system from repeated oral exposure at high doses.

Acute Effects (Active Ingredient)

Swallowed:	LD ₅₀	0.27 mg/kg (rat)
Dermal absorption:	LD ₅₀	2000 mg/kg (rat)
Inhaled:	Due to the form of this product (solid preparation), inhalation is not considered to be a relevant route of exposure.	
Irritation		
Eye:	NON-IRRITANT (HSNO Classification)	
Skin:	NON-IRRITANT (rabbit)	
Sensitization		
	NOT A SENSITISER (guinea pigs)	

Chronic / Long Term Effects (Active Ingredient)

Brodifacoum technical has been extensively tested on laboratory mammals and in test-tube systems. No evidence of neurotoxic, mutagenic, carcinogenic, teratogenic or reproductive effects was obtained. Studies in rats and rabbits indicate that this material accumulates in body tissues, principally the liver and has a very long half-life (150-200 days in rats dosed with 0.25 mg/kg). Thus, in humans there is a potential for accumulation of small amounts over a long period of continued exposure leading to toxic levels within the body.

Section 12: ENVIRONMENTAL INFORMATION

HSNO Classifications:

- 9.1D = Harmful to aquatic organisms.

Environmental Risk and Safety Phrases:	Avoid contamination of any water supply with chemical or empty container
---	--

The information presented below is for the active ingredient, brodifacoum. A thorough review of environmental information is not possible in this document.

Ecotoxicity Effects

Toxicity to Birds:	LD ₅₀ = 0.31 (mallard duck) LD ₅₀ = 11.6 mg/kg (Japanese quail) LD ₅₀ = 4.5 mg/kg (chickens)
Acute toxicity to fish:	LC ₅₀ (96 h) = 0.051 mg/L (Rainbow trout) LC ₅₀ (96 h) = 0.165 mg/L (Bluegill sunfish)
Growth inhibition, Algae:	ErC ₅₀ (72 h) = 2.2 mg/L (<i>Scenedesmus subspicatus</i> (green algae)) ErC ₅₀ (72 h) = 0.71 mg/L (<i>Pseudokirchneriella subcapitata</i> (green algae))
Toxicity to aquatic Invertebrates:	LC ₅₀ (48h) = 0.34 mg/L (<i>Daphnia magna</i> (water flea))

Environmental Fate

The information presented here is for the active ingredient, brodifacoum.

Persistence and Degradability:	Brodifacoum is persistent in soil and water.
Mobility:	Brodifacoum has low mobility in soil.
Bioaccumulative Potential:	Brodifacoum has high potential to bioaccumulate.

Section 13: DISPOSAL CONSIDERATIONS

Product Disposal:	Dispose of unused or untaken baits by burying in an approved dump. Look for dead rats or mice or bury them. DO NOT place in refuse bins or rubbish tips. Ensure baits are removed when rodent activity has ceased.
Container Disposal:	Dispose of empty containers by burying in an approved dump. Otherwise dispose of empty container by wrapping in paper and placing in garbage.

Section 14: TRANSPORT INFORMATION

Rail / Road (RID/ADR)	Not classified as dangerous good
Sea (IMDG-Code)	Not classified as dangerous good
	MARINE POLLUTANT: No
Air (ICAO/IATA)	Not classified as dangerous good

Section 15: REGULATORY INFORMATION

HSNO Approval Number:	HSR001594
HSNO Controls (inc. Tracking and Record Keeping):	See http://www.epa.govt.nz/search-databases/Pages/controls-search.aspx for controls.
ACVM Registration:	V9229
ACVM Controls:	See www.foodsafety.govt.nz/industry/acvm for registration conditions.

Section 16: OTHER INFORMATION

Note: This product is a registered agricultural chemical and must therefore be used in accordance with the container label directions. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the Government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.

CONTACT POINT: Business Manager - Crop Protection: (09) 306 1503
24 HOURS EMERGENCY CONTACT: 0800 734 607

This Material Safety Data Sheet 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 should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

®Registered Trade Mark of a Syngenta Group Company.