



NEWTOWN FERTILIZERS CC

Material Safety Data sheet

1. PRODUCT & COMPANY IDENTIFICATION

Company Name: Newtown Fertilizers cc
P.O. Box 60004, Langlaagte
2102, Johannesburg
South Africa
+27(0)118389153

Product Name: Di-Rat-Blue Product No: L9836
EPA Signal Word: Harmful
Active Ingredient(%): Brodifacoum 0.008g/kg CAS no: 56073-10-0
Chemical name: 3-[3-[4-(4-bromophenyl) phenyl]-1,2,3,4-tetrahydronaphthalen-1-yl]-2-hydroxychromen-4-one.
Chemical Class: A coumarin-type anticoagulant rodenticide. Xn, R22 Cas no: 91-64-5
EPA Registration Number(s): 100-1050, 100-1051, 100-1052, 100-1057 Section(s) Revised: 0

2. HAZARDS IDENTIFICATION

Harmful if swallowed.
Symptoms of Acute Exposure: Slight eye irritation.
Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gas.
Appearance: Dark blue grain
Odour: Slightly grainy-sweet smell
Unusual Fire, Explosion and Reactivity Hazards: During fire, toxic gases may be generated during thermal decomposition.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	Bait Form	ACGIH	Other	NTP/LARC/OSHA
	GRA	TLV		Carcinogen
Liquid Binder	Not Established	Not Established	Not Established	No
Organic Flavourant	Not Established	Not Established	Not Established	No
Cereal Material	Not Established	Not Established	Not Established	No
Blue Pigment	Not Established	Not Established	Not Established	No
Brodifacoum CAS:56073-10-0	Not Established	Not Established	0.001 mg/m ³ TWA*	No
Denatonium benzoate CAS:3734-33-6	Not Established	Not Established	0.01 mg/m ³ TWA*	No
Triethanolamine	Not Established	Not Established	0.1-3 mg/m ³ TWA*	No
Propylene-glycol CAS:57-55-6	Not Established	Not Established	1-3%	No
Ethylene glycol	Not Established	Not Established	2-5%	No

* Newtown Fertilizers cc Occupational Exposure Limit (OEL)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Newtown Fertilizers cc Category: A

4. FIRST AID MEASURES

On contacting Newtown Fertilizers cc (0027118389153), a poison control centre or doctor for treatment, have the Material Safety Data Sheet or product packaging at hand.

Ingestion: If swallowed. Call Newtown Fertilizers cc (0027118389153), a poison centre or doctor immediately for treatment advice. Have the person sip water if able to swallow. Do not induce vomiting unless told to do so after calling (0027118389153) or by a poison centre or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: Gently hold eye open and rinse with water for at least 20 minutes. Remove contact lens after a few minutes and continue rinsing. Call Newtown Fertilizers c (0027118389153), a poison control center or doctor for treatment advice.

Skin Contact: Remove contaminated clothing and wash skin with soap and water.

Inhalation: Not Applicable.

Note to Physician

This product contains anticoagulants that act by interfering with the synthesis of prothrombin. The specific measure of effect is the prothrombin time that may not become prolonged until 12-18 hours after ingestion. The specific antidote is Vitamin K1 (Phytomenandione BP).

The antidote must be administered under medical supervision. 10-20mg/kg for adults or 0.25 mg/kg for children, by slow intravenous infusion at a rate not exceeding 1 mg /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 hemoglobin should be monitored. Patients should be under constant medical supervision until the prothrombin time has become normal for 3 consecutive days. Oral treatment may need to be continued for several months (20mg/kg in divided doses for adults, and up to 20 mg/kg in divided doses for children). (For animals cases the dose is 2-5 mg/kg).

Further information is available from the Newtown Fertilizers cc emergency number provided in this document.

Medical condition likely to be aggravated by exposure

This product contains anticoagulants with an effect similar to Warfarin. The anticoagulant interferes with the synthesis of prothrombin. Significant exposure (e.g. ingestion) can cause anticoagulation effects and could aggravate existing blood clotting disorders.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method): > 375°F (paraffin wax) Method: PMCC

Flammable Limits (% in Air): Lower: % Not Applicable Upper: Not Applicable

Auto-ignition Temperature: Not Available

Flammability: Not Flammable

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possible toxic gases may be generated by thermal decomposition and combustion.

In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Control the spill at its source. Clean up spills immediately, following precautions

Out lined in Section 8. Sweep up material and place in a compatible disposal container.

Once all material is collected, seal container and arrange for disposal.

7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling. Product is highly appealing to rodents, if need be store in a lockable container or cupboard.

8. EXPOSURE CONTROLS/PERSONNEL PROTECTION

The following recommendations for exposure control/personal protection are intended for the manufacturer, formulation, packaging and use of this product.

For commercial applications and/or on-farm applications consult the product label.

Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is potential for exposure to the material. Wash thoroughly with soap and water.

Eye Contact: Eye protection is not required for normal handling. Where heavy contact is likely, wear tight-fitting chemical goggles.

Skin Contact: Gloves are not required for normal handling. Where heavy contact is likely, wear chemical resistant (such as nitrile or butyl) gloves.

Inhalation: Respiratory protection is not required for normal handling. In the event of an unusual dust exposure, use engineering controls or a NIOSH-certified particulate respirator. (N,P,R,HE filter) to keep exposure below the Occupational Exposure Limit.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dark blue grain.
Odour: Slightly grainy-sweet smell.
Melting Point: Not available.
Boiling Point: 442-446°F (Brodifacoum).
Specific Gravity/Density: 40.00 lbs./cu.ft.
PH: Not Available.

Solubility in H2O

Brodifacoum Technical: Insoluble.

Vapour Pressure

Brodifacoum Technical: 6 x 10(-6) mmHg @ 68°F (20°C)

10. STABILITY AND REACTIVITY

Stability: Stable under normal use and storage conditions.
Hazardous Polymerization: Will not occur.
Conditions to avoid: None known.
Materials to avoid: None known.
Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gas.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion: Practically Non-Toxic
Oral (LD50 Rat): >5,000 mg/kg body weight.
Dermal: Slightly Toxic
Dermal (LD50 Rat): >2,000 mg/kg body weight (calculated from technical material.)
Inhalation: Not Available
Inhalation (LC50): See "Other Toxicity Information", Sec.11
Eye Contact: See "Other Toxicity Information", Sec.11
Skin Contact: See "Other Toxicity Information", Sec.11
Skin Sensitization: Not Available.

Reproductive/Development Effects

Brodifacoum Technical: Not teratogenic, embryotoxic or fetotoxic in rats or rabbits at doses of up to 0.02 mg/kg/day – the dose causing excessive maternal toxicity. Non-genotoxic in a range of assays.

Chronic/Subchronic Toxicity Studies

Brodifacoum Technical: The biological half-life of brodifacoum in body tissue in rats is >100 days. Adverse clinical effects can develop from body accumulation. Prolonged prothrombin time, depression, pallor, subcutaneous hemorrhage, bleeding of nose or gums, gastrointestinal hemorrhage, cerebral hemorrhage, shock and death can develop following exposure. No neurotox studies have been conducted.

Carcinogenicity

Brodifacoum Technical: Unlikely to be carcinogenic.

Other Toxicity Information

The effects of over exposure are the same as those of anticoagulant overdose, i.e. reduced blood clotting ability with spontaneous bleeding in various organs. Body accumulation can result from repeated exposures since the half-life of brodifacoum is >100days. Individuals with blood clotting disorders may be more susceptible to over exposure effects. Systemically toxic concentration of this product will probably not be absorbed through human skin. Non-toxic effects are known to be associated with inhalation of dust from this material. No irritation is likely to develop following contact with human eyes. Irritation will probably not develop following contact with human skin.

Toxicity of Other Components

Cereal/Grain Ingredients: Not Applicable
Blue Pigment: Not Applicable
Ethylene Glycol: The toxicological properties of this material have not been fully investigated. May cause mild eye and skin irritation. Oral rat LD50: 2125mg/kg, Inhalation rat LC50: 2000 ppm/7H. Continued long-term exposure on experimental animals caused both birth defects and damage to the reproductive system.

Ingredient	-----NTP Carcinogen-----		
	Known	Anticipated	IARC Category
2-Ethoxyethanol (110-80-5)	No	No	None

Denatonium benzoate: Not Applicable
Triethanolamine: Not Applicable

Target Organs

Active Ingredients

Brodifacoum Technical: Blood

Inert Ingredients

Cereal/Grain: Not Applicable
Blue Pigment: Not Applicable
Ethylene Glycol: Eye, skin, reproductive organs.
Denatonium benzoate: Not Applicable
Triethanolamine: Not Applicable

12. ECOLOGICAL INFORMATION

Summary of Effects

Brodifacoum Technical: The risk of this formulation to most non-target organisms is low. However, if this product is misused or stored improperly, birds and non-target animals may be at higher risk.

Eco-Acute Toxicity

Brodifacoum Technical: Fish (Trout) 96-hr LC50 0.04ppm
Invertebrates (Daphnia) 48-hr EC50 0.06ppm
Birds (8-day dietary - Bobwhite Quail) 40-day LC50 0.8ppm
Birds (8-day dietary - Mallard Duck) 40-day LC50 2.7ppm

Formulation(predicted):

Brodifacoum Technical: Fish (Trout) 96-hr LC50 800 ppm
Invertebrates (Daphnia) 48-hr EC50 1,200 ppm
Birds (8-day dietary - Bobwhite Quail) LC50 16,000ppm
Birds (8-day dietary -Mallard Duck) LC50 54,000ppm

Eco-Chronic Toxicity

Brodifacoum Technical: No applicable studies available.

Environmental Fate

Brodifacoum Technical: The information presented here is for the active ingredient, Brodifacoum only. Not persistent in soil. Stable in water. Immobile in soil. Sinks in water (after 24h).

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse empty container except for holding additional product.

Characteristic Waste: Not Applicable.

Listed Waste: Not Applicable.

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport – NAFTA

Not regulated.

B/L Freight Classification

Exterminator, Vermin, O/T Poison

Comments

Water Transport : International

Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Brodifacoum), Marine Pollutant.

Hazard Class or Division: Class 9

Identification Number: UN 3077

Packing Group: PG 111

15. REGULATORY INFORMATION

EPCRA SARA Title 111 Classification

Section 311/312 Hazard Classes: Acute Health HazardChronic Health Hazard
Section 313 Toxic Chemicals: Not Applicable.

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

None

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. ECOLOGICAL INFORMATION

NFPA Hazard Ratings

Health: 1
Flammability: 1
Instability: 0

HMIS Hazard Ratings

Health: 1
Flammability: 1
Instability: 0

/	0	Minimal	/	1	Slight	/	2	Moderate	/	3	Serious	/	4	Extreme	/
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For non-emergency questions about this product call:

0027118389153

Original Issued Date:

Revision Date:

RSVP#: Not Applicable

End of MSDS

Replaces:

This information and recommendations contained herein are based upon data believed to be correct. However no guarantee or warranty of any kind, expressed or implied.