

SAFETY DATA SHEET

Tornado

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product Name: Tornado
Other identifier: Difenacoum 0.1 g/kg Bait
Pesticide Classification: Rodenticide
Restrictions on use: Agriculture

Supplier
 Enviro Bio-Chem (Pty) Ltd
 Co. Reg. No.: 2013/194774/07
 44 Kerk Street, Lichtenburg
 North West, South Africa 2740

Registration Holder
 RT Chemicals CC
 Co. Reg. No.: CK87/21925/23
 44 Kerk Street, Lichtenburg
 North West, South Africa 2740

Telephone: +27 12 006 0063
Fax: 086 541 7948
Website: www.envirobiochem.co.za

24 Hr Emergency Number: Spillage: 0861 000 366

In case of Poisoning:
 Griffon Poison Information Centre: +27 82 446 8946
 Tygerberg Hospital: (+27 21) 931 6129
 Poison Emergency Enquiries: (+27 21) 689 5227

2. HAZARD IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	Hazard statements
Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.		None required.

The most important adverse effects:
The most important adverse physiochemical effects: None.
The most important adverse human health effects: None.

Label elements: Non required.

Signal word: Non required.

Hazard statements: Non required.

Precautionary statements:
 P102: Keep out of reach of children.
 P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P264: Wash hands, forearms, and face thoroughly after handling
 P273: Avoid release into the environment.
 P405: Store locked up
 P501: Dispose of contents/container in accordance with local/regional/ national/international regulation

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances/ Mixture: Mixture

Composition:

Chemical Name	CAS	Conc. (m/m%)	Classification EC 1272/2008
Difenacoum	56073-07-5	0.01%	Acute toxicity (Category 1), H300 Acute toxicity (Category 1), H310 Acute toxicity (Category 1), H330 STOT RE (Category 2), H373 (Blood) Reproduction toxicity (Category 1B) H360D Aquatic Acute (Category 1) H400 Aquatic Chronic (Category 1) H410
Bittrex	3734-33-6	< 1%	Acute toxicity (Category 4), H302 Acute toxicity (Category 4), H332 Eye damage (Category 1), H318

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

In case of inhalation: Due to the physical nature of this product, exposure by this route is unlikely. IF INHALED: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if symptoms are severe or persist.

In case of skin contact: May cause irritation to susceptible persons. Immediately take off all contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if symptoms are severe or persist after washing.

In case of eye contact: Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical advice.

In case of ingestion: Rinse mouth thoroughly with water. Do not induce vomiting. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed:

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation: Unlikely to present an inhalation hazard. If symptoms develop move the exposed person to fresh air. Immediately obtain medical advice.

Ingestions: Rinse mouth. Do NOT induce vomiting. Call a doctor immediately

Skin contact: May cause skin irritation.

Eye contact: May cause causes eye irritation.

Indication of any immediate medical attention and special treatment needed: Treat symptomatically. Do not induce vomiting.

Advice for Medical Doctors: Difenacoum is an indirect anticoagulant. Vitamin K1 (phytomenadione) is an antidote. In the case of suspected poisoning, determine prothrombin time not less than 18 hours after consumption. If elevated, administer vitamin K1, 40mg/day for adults and 20mg/day for children in divided doses. Continue until prothrombin times normalise. Continue determination of prothrombin time for two weeks after withdrawal of the antidote and resume treatment if elevation occurs in that time. N.B. Vitamin K3 is not effective. If less than 2 hours has passed from the intake, gastric emptying must be performed, and activated carbon dispensed (25 g).

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use carbon dioxide, dry powder, or alcohol-resistant foam for small fires and water spray can be used for larger fires or cooling of unaffected stock but avoid the accumulation of polluted run-off from the site.

Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.

Specific hazards: Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous decomposition products in case of fire: Refer to Section 10: Stability and Reactivity.

Special Fire Fighting Procedures: Avoid inhaling hazardous vapours. Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.

Personal protective equipment: Wear NIOSH/MSHA approved self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid contact with eyes and skin. Wear approved protective clothing as described in Section 8. Do not breathe in spray mist or dust. Ventilate area of spill, especially in contained areas.

Protective equipment: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals. Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA and full turnout gear. Use an approved/certified respirator or equivalent. Avoid contact with eyes and skin. Do not breathe in fumes. Refer to section 8 for recommended personal protective equipment. Evacuate unnecessary personnel

Environmental Precautions: Avoid the product coming into contact with any surface or underground water. If this occurs, immediately notify the appropriate authorities. To minimise the risk of secondary poisoning, remove dead rodents when monitoring bait stations. Remove dead rodents and bait stations after completing the treatment and dispose of them according to current legislation. Do not dispose of the product in the ground, in natural water systems, drains or soil.

Dispose in a safe manner in accordance with local/national regulations.

Methods for containment and cleaning up:

Spills : Provide adequate ventilation and wear protective clothing. Sweep up and place the material into a clean, dry container and cover for subsequent disposal according to Section 13. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains or watercourses.

Reference to other sections:

See Section 1 for emergency contact information

See section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See section 13 for information on disposal.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: The product is unlikely to produce dust. Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use.

Protective measures: Observe directions on label and instructions for use.

General occupational hygiene: Handle in accordance with good industrial hygiene and safety practice. Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Wash all clothing before it is re-used. Take off contaminated clothing. Wash contaminated clothing before reuse. Wash after use and before eating, smoking, and using the toilet.

Storage:

Conditions for safe storage: Keep out of the reach of children. Read the label carefully before opening the package. Remove and possibility of contact with skin and eyes. Follow instructions to avoid risk to humans and the environment. Do not eat, drink or smoke during use.

Wear suitable protective gloves and goggles or face shield, gloves and rubber boots. Wash hands and exposed skin to rid of product and contaminated clothing. Take personal protection measures set out in section 8.

Incompatible substances and mixtures: Refer to product label.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Acceptable Daily Intake (ADI): No data available

Exposure Limits: No data available

Exposure control: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. A Risk Assessment should be conducted before handling is to commence to determine specific exposure control.

Engineering Controls: It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

Hygiene measures: Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment:

Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved air-purifying respirator.

Hand Protection: The use of chemically protective gloves is recommended to prevent against skin contact. Examples of preferred glove barrier materials include Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride.

Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.

Skin and Body Protection: Employee must wear appropriate protective clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.

Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

Environmental exposure controls: Keep container tightly sealed when not in use. Avoid release to the environment. Prevent product from entry into sewers and water courses

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid blocks
Colour	Dark blue
Odour	No data available
Odour threshold	No data available
pH	9
Melting point / freezing point (° C)	No data available
Boiling point (° C)	190
Flash point (° C)	No data available
Evaporation rate	No data available
Flammability	Non flammable
Upper /lower flammability limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density (25°C)	1.05
Water solubility (g/l) at 20°C	Insoluble in water
Partition coefficient: n-octanol/water partition coefficient	No data available
Auto-ignition temperature (° C)	No data available
Decomposition temperature (° C)	No data available
Viscosity, dynamic (mPa s)	No data available
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions. Avoid excessive heat sources.

Reactivity: None known.

Possibility of Hazardous Reactions: Will not occur.

Conditions to Avoid: Excessive heat sources.

Incompatible Materials: Avoid strong bases, strong acids and strong oxidizing agents.

Hazardous Decomposition Products: Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include harmful gases or vapours.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS:

Acute Oral LD₅₀ (rat): 1.8 mg/kg

Acute Dermal LD₅₀ (rat): 4.99 mg/kg

Acute Inhalation LC₅₀ (rat, 4 hr): > 0.036 mg/l air.

Skin Irritation: Not classified.

Eye Damage/Irritation: Not classified.

Skin Sensitization: Not classified.

Respiratory Sensitization: Not classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive toxicity: May damage the unborn child.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not classified.

Chronic Effects (other targets e.g. developmental): Not classified

Additional Information: STOT Repeated Exposure: The product causes chronic anticoagulation. It works by interrupting the cycle of vitamin K in the liver microtomes, which specifically inhibits the activation of coagulation factors necessary for clotting.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

Active ingredient: Difenacoum tech CAS No. 56073-07-5

Fish

LC₅₀ (96 hr) 0.10 mg/l (rainbow trout)

Daphnia

LC₅₀ (48 hr) 0.52 mg/l

Algae

Static test EC₅₀ (72h) 0.80 mg/l (*Selenastrum capricornutum*)

Birds

Acute oral LD₅₀ 56 mg/kg (bobwhite quail)

Dietary LC₅₀ 8 days 1.4 mg/kg diet (Japanese quail); 18.9 mg/kg (mallard ducks)

Bees

Toxicity to bees LD₅₀ (oral) No information available

Toxicity to bees LD₅₀ (contact) No information available

Worms

LC₅₀ (14d) >994 mg/kg soil (*Eisenia fetida*)

Biodegradability: The substance is relatively persistent in soil, with an average DT₅₀ of 290 days and a range of 146–439 days reported under laboratory conditions.

Bioaccumulation: No data available.

Mobility: The substance is considered unlikely to leach. No leaching was observed in 30 cm laboratory column studies, indicating low potential for movement into deeper soil layers.

Additional information: Avoid release to the environment.

13. DISPOSAL CONSIDERATION

Pesticide Disposal: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.

Package Product Wastes: Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is cleaned, reconditioned or destroyed. Thereafter, rinse the container three times with a volume of water equal to a minimum of one third of that of the container. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.

Ecology - waste materials: Avoid release to the environment.

14. TRANSPORT INFORMATION

UN Number	3027
Road Transport ADR/IRD:	
Class:	6.1
Packaging group:	III
UN proper Shipping Name:	Coumarin Derivative Pesticide; Solid; Toxic (Difenacoum 0.1 g/kg)
Maritime Transport IMDG/IMO:	
Class:	6.1
Packaging group:	III
UN proper Shipping Name:	Coumarin Derivative Pesticide; Solid; Toxic (Difenacoum 0.1 g/kg)
Marine Pollutant (Y/N):	Yes
Air Transport IATA/ICAO:	
Class:	6.1
Packaging group:	III
UN proper Shipping Name:	Coumarin Derivative Pesticide; Solid; Toxic (Difenacoum 0.1 g/kg)

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture:

Relevant information regarding authorization: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021. UN Recommendations on the Transport of Dangerous Goods Model Regulations Rev. 21 (2019), Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 8, 2019.

Relevant information regarding restrictions: None.

EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)

Other national regulations: National Road Traffic Act, 1996 (ACT NO. 93 of 1996). SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes. National Environmental Management Waste Act 59 of 2008. Act 36 of 1947 of the Republic of South Africa. This product is registered under it is a violation of South African law to use this product in any manner inconsistent with its approved labelling. Read and follow all label directions

Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Note: Read and understand all the information on the product label before using the product.

Indication of changes:

Classification according to SANS 10234:2019, Regulation EC 1272/2008 [EU-GHS/CLP]
GHS aligned – all sections

Relevant H statements (number and full text):

H300-Fatal if Swallowed

H302-Harmful if swallowed

H332-Harmful if inhaled

H310-Fatal in contact with skin

H318-Causes serious eye damage

H330-Fatal if inhaled

H400-Very toxic to aquatic life

H410-Very toxic to aquatic life with long lasting effects

Reproduction toxicity (Category 1B): May damage unborn child

STOT RE 2 H373-Specific Target Organ Toxicity repeated exposure (Category 2), Blood

IATA: International Air Transport Association.

IBC: International Bulk Chemical.

ICAO: International Civil Aviation Organization.

IMDG: International Maritime Dangerous Goods

IMO: International Maritime Organization.

LD50 value: The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.

OEL/RL: Occupational exposure limit-recommended limit.

TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.

ST/STEL: Short-term exposure limits.

Training instructions:

Use as indicated on the label, special training may be required for application.

Disclaimer: This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product. The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product, nor where instructions or recommendations are not followed.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

END OF DOCUMENT

Compiled: /
Reviewed: April 2026
Next revision: April 2031

For detailed information on revisions, contact the registration holder.