1 Identification of the preparation and the supplying Company

1.1 Difenag (UK-2012-0497)
1.2 A ready to use cereal based rodenticide
1.3 Killgerm Chemicals Ltd, Wakefield Road, Ossett, West Yorkshire, WF5 9AJ.
Tel: +44 (0)1924 268450 Fax: (0)1924 265033 Email: technical@Killgerm.com
1.4 Emergency telephones. Medical professionals should use National Poisons Information Service: 0870 600 6266.Killgerm Chemicals Ltd, 01924 268452 (Office hours)
Non-medical professionals should seek information by contacting NHS 111, Tel :111

2 Hazards identification

2.1. Classification of the substance or mixture

Not classified as hazardous according to Regulation (EC) 1272/2008

2.2. Label elements

P102 keep out of reach of children
P103 Read the label before use.
P280 Wear protective gloves and clothing
P301+310 If SWALLOWED: Immediately call a POISON CENTER or doctor/physician

. To avoid risk to man and the environment comply with the instructions for use. Safety data sheet available for professional user on request.

2.3. Other hazard

None expected under normal conditions of use. This product contains Difenacoum, an indirect anticoagulant. Any signs of poisoning are unlikely to occur until 12-18 hours after ingestion. Thereafter, they will develop progressively and may rapidly appear.
Clinical signs result from an increased bleeding tendency and include: an increase in prothrombin time, bruising easily with occasional gum bleeding, blood in the stool or urine, excessive bleeding from minor cuts and abrasions, pale mouth and cold gums, anorexia and general weakness. More severe cases of poisoning include haemorrhage (usually internal) and shock.
This product is hazardous to mammals including domesticated animals, and birds if ingested. Exposure of non-target animals should be prevented.

3 Composition and information on ingredients

3.2. Mixtures

Hazardous Components in Product

Ingredient Name	Classification	Concentration	R Phrases	H Phrases
Difenacoum Technical Material CAS Number: 56073-07-5	Xn N Acute Tox category 4 (oral) Acute Tox category 4 (Inhalation - mist) Acute Tox category 4 (dermal)	0.005%w/w	R20/21/22 R51/53	H332 H312 H302 H411

	Aquatic Chronic category 2			
Bitrex CAS Number: 3734-33-6	Xn. Xi Acute Tox category. 4, Skin Irrit category. 2, Eye Dam category. 1, Aquatic Chronic category 3,	<2.5% w/w	R20/22 R38 R41 R52/53	H302,H315,H332,H318 H412

See section 16 for full text of R-phrases, H phrases and hazard classification of ingredients.

4 First Aid measures

4.1. Description of first aid measures

Ingestion (swallowing): Wash out mouth with water. Do not induce vomiting. Obtain medical attention.

Inhalation: Unlikely route of exposure. Remove from exposure to fresh air. Obtain medical advice if symptoms develop.

Skin contact: Wash skin with soap and water.

Eye contact: Wash out eye with plenty of water. Obtain medical advice if necessary

4.2. Most important symptoms and effects, both acute and delayed:

Difenacoum is an indirect anticoagulant. Vitamin K1 (phytomenadione) is antidotal. 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. For comprehensive medical advice on the treatment of poisoning, contact the nearest Poisons Information Centre.

4.3. Indication of any immediate medical attention and special treatment needed …See 4.2

5 Fire-fighting measures

5.1. Extinguishing media

Use water spray, foam, dry chemical or carbon dioxide. Cool the smouldering material with water spray to minimise the possibility of re-ignition. Keep containers and surroundings cool with water spray.

5.2. Special hazards arising from the substance or mixture:

This product is non-flammable, but combustible. May produce toxic fumes of carbon monoxide if involved in a fire.

5.3. Advice for fire-fighters

Wear self-contained breathing apparatus

6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:
Personnel dealing with accidental spills and release of the mixture should wear personal protective equipment described in section 8 under “spillage”

6.2. Environmental precautions:
In case of accidental spills keep away from drains, surface and ground water.

6.3. Methods and material for containment and cleaning up:
Sweep up spilled material carefully. Avoid raising dust. Place in marked receptacle ready for disposal. Contact supplier for advice on disposal. See also section 13

6.4. Reference to other sections:
Refer to section 8 and 13 for additional information.

7 Handling and storage

7.1. Precautions for safe handling
This product is subject to the Food and Environmental Protection Act 1985, and the Control of Pesticides Regulations 1986 made under it. The product must be used in accordance with the product label. FOR USE ONLY BY PROFESSIONAL OPERATORS. AVOID ALL CONTACT BY MOUTH. PREVENT ACCESS TO BAIT by children, birds and non-target animals particularly dogs, cats, pigs and poultry. Search for and remove rodent bodies at frequent intervals during treatment (unless used in sewers). Collect and dispose of the remains of bait and any remaining rodent bodies after treatment (unless used in sewers). You must ensure that you comply with legislation regarding the correct disposal of waste. For further guidance, contact the Environment Agency or your local Scottish Environment Protection Agency (SEPA) office. HARMFUL TO WILDLIFE. DO NOT PLACE BAIT where food, feed or water could become contaminated (except when used in sewers). IF YOU FEEL UNWELL, seek medical advice (show the label where possible.
WASH HANDS AND EXPOSED SKIN before meals and after use.
EMPTY CONTAINER COMPLETELY and dispose of safely.
When working in rodent infested areas it is recommended that synthetic rubber/PVC gloves be worn to protect against rodent borne disease. Always attach labels to any containers used to carry bait decanted from the main container. Do not remove inner liner from outer bag. STORE UNUSED SACHETS in a safe place. DO NOT STORE part used sachets (place packs). Where appropriate, secure the bait (place pack/sachet) at its placement site to reduce the likelihood of its removal by rodents (or by surges of water if intended for use in sewers).

7.2. Conditions for safe storage, including any incompatibilities
STORE IN ORIGINAL CONTAINER, tightly closed, in a safe place. Store in a cool dry place. Protect from frost.

7.3. Specific end use(s)
For use as a rodenticide

8 Exposure controls and personal protection

8.1. Control parameters
No specific national limit values have been established

8.2. Exposure controls
Where exposure may occur engineering controls should be employed. A risk assessment should be carried out and the following PPE may be appropriate /required

PPE	ITEM IN USE	SPILLAGE
Respirators		Half mask respirator to EN140 plus P class filter to EN 143 to required (nominal) protection factor (minimum).

Gloves	Unlined/Flock lined, synthetic rubber/PVC to EN 374. (300mm in length) e.g. Nitrile.	Unlined/Flock lined, synthetic rubber/PVC to EN 374. (300mm in length) e.g. Nitrile
Overall	Basic type e.g. Heavy duty polycotton or coverall type 5/6.	Coverall type 5/6.
Goggles/ Face shield		Goggles to EN 166 3459B.

9 Physical and chemical properties

9.1. General information

Appearance: A green/blue whole wheat grain bait
Odour: characteristic wheat odour.
pH: Not applicable
Density: 0.7
Flammability: Will burn in a fire
Boiling point/boiling range: Not applicable
Vapour density: Not applicable
Vapour pressure: Not applicable
Melting point/freezing point: Not applicable
Solubility in water: Insoluble
Solubility in other solvents: not determined
Explosive properties: None
Combustibility: combustible
Oxidising properties: None
Evaporation rate: not applicable
Partition coefficient: not applicable
Decomposition temp: not determined
Auto-ignition temp: Not determined

10 Stability and reactivity

10.1. Reactivity: Not reactive mixture

10.2. Chemical stability: Mixture is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3. Possibility of hazardous reactions: None anticipated

10.4. Conditions to avoid: Avoid extremes of temperature

10.5. Incompatible materials: Store away from strong oxidising agents

10.6. Hazardous decomposition products: Carbon monoxide and oxides of nitrogen, toxic and irritants released if mixture is involved in a fire.

11 Toxicological information

11.1 Information on toxicological effects

(a) Acute toxicity: Information has been derived from the properties of the individual ingredients. Oral LD50 (rat) >2000mg/kg
Inhalation- Not an anticipated route of exposure.
(b) Corrosivity/Irritation: Skin eyes, respiratory tract – no irritation potential expected. Information derived from the properties of the individual ingredients
(c) Sensitisation: contains no known skin or respiratory sensitizers.
(d) Repeated dose toxicity: The product has not been tested. Repeated exposure to small quantities may affect

certain organs, Damages the coagulation system.
(e) Mutagenicity/Carcogenicity: Product does not contain any ingredients known to have such effects.
(f) Reproductive toxicity: Product does not contain any ingredients known to have effects on fertility or the reproductive system.

11.2 Other data: see section 2.3

12 Ecological information

12.1. Toxicity: The Difenacoum in this product is classified as toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment. However, when used in accordance with instructions, controlled release of this product is not expected to cause environmental contamination. The following data is for components of the mixture

Toxicity to fish: LC50 (96 h) 0.064 mg/l, Oncorhynchus mykiss
Aquatic invertebrates: EC50 (48 h) 0.52 mg/l, Daphnia magna (Directive 92/69/EEC, C.2)
Aquatic plants: No observed effect concentration (72 h) 0.25 mg/l (growth rate), Pseudokirchneriella subcapitata (Guideline 92/69/EEC, C.3)

12.2. Persistence and degradability: Degradation in soil is slow. Difenacoum, soil half-life of 439 days

12.3. Bio accumulative potential: The active ingredient properties indicate a potential to bio-accumulate.

12.4. Mobility in soil: Mobility potential is very low and will depend principally on the soil type. Difenacoum and any potential degradation products, even if released indirectly to soil in small quantities are not likely to move through the soil profile and are unlikely to reach groundwater in significant quantities.
12.5. Results of PBT and vPvB assessment: The product contains a potential PBT substance. The product contains a potential vPvB substance.
12.6. Other adverse effects: None known

13 Disposal considerations

13.1. Waste treatment methods

- Empty outer pp 20k bag, uncontaminated- classified non-hazardous. EWC code 15 01 02

Consider recycling route.
• Empty outer pp 20k bag, contaminated but shaken empty. EWC code 20 01 19.
• Empty inner liner (20k bag), contaminated but shaken empty. EWC code 20 01 19.
• Empty pp bag plus inner liner, contaminated but shaken empty. EWC code 20 01 19.
• Coveralls, gloves, other PPE, contaminated. EWC code 15 02 03. Waste classification non-hazardous. None of hazardous properties apply.
• Spent bait. EWC code 20 01 19. Biocide solid waste. Waste classification hazardous..
• Contact supplier, local authority or Environment Agency for advice about disposal of waste items.

14 Transport information

14.1. UN number: Not applicable

14.2. UN proper shipping name: Not applicable

14.3. Transport hazard class(es) : Not applicable

14.4. Packing group: Not applicable

14.5. Environmental hazards: Not applicable

14.6. Special precautions for user: Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable

15 Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:
Labelling according to Regulation (EC) No 1272/2008

Control of Substances Hazardous to Health Regulations 2002 (as amended).
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

• Restricted to professional users.
• Refer to other relevant measures such as the Health and Safety at Work etc Act 1974 and the COSHH regulations and guidance.
• The information contained in this data sheet does not constitute the user's own assessment of workplace risks as required by legislation.

15.2. Chemical safety assessment: Advice on product handling can be found in sections 7 and 8.

16 Other information

Use only in accordance with label instructions.
Operatives using this product should be trained in its use.
The information in this data sheet should be considered when undertaking a risk assessment under the COSHH regulations.
Ingredient classification data:
Xn- Harmful.
Xi- Irritant.
N-Dangerous for the environment.
R27/28- Very toxic in contact with skin and if swallowed.
R20/22- Harmful by inhalation , if swallowed and skin contact
R38- Irritating to skin.
R41- Risk of serious damage to eyes.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

H311: Toxic in contact with skin
H332: Harmful if inhaled
H411: Toxic to aquatic life with long lasting effects
H412: Harmful to aquatic life with long lasting effects
H372: Causes damage to organs through prolonged or repeated exposure
H302: Harmful if swallowed
H315: Causes skin irritation
H332: Harmful if inhaled
H318: Causes serious eye damage

This data sheet does not constitute a COSHH assessment.
The information contained within this data sheet is strictly for general guidance only and should not be relied upon over and above this. This data sheet is intended to provide general health and safety guidance on the handling, storage and transportation of the preparation. The information provided in this data sheet is accurate at the date of publication and will be updated as and when appropriate. No liability will be accepted by Killgerm Chemicals Limited for any loss, injury or damage arising from any failure to comply with the information and advice contained within this data sheet and/or failure to comply with the manufacturer's guidelines, product label data and any associated technical usage literature.