

1 Identification of the preparation and the supplying Company**1.1 Sakarat D Liquid bait (UK-2017-1113)**

1.2 A ready-to-use liquid bait containing Difenacoum (0.005%w/w) for use as a rodenticide by professionals for the control of rats and mice indoors and outdoors (around buildings only) for the protection of public health, stored products and materials.

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**

Repr. 1B; H360D May Damage fertility or the unborn child.

STOT RE. 2; H373 (blood): May cause damage to organs through prolonged or repeated exposure

2.2. Label elements

The following precautionary phrases are appropriate (Regulation (EC) 1272/2008):

Signal word: **DANGER**

P120 Keep out of reach of children

P103 Read label before use

P101 If medical advice is needed, have product container or label at hand

P405 Store locked up

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves

P301+310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.

Additional safety Information

To avoid risks to human health and the environment, comply with instructions for use. Use bait containers clearly marked "poison" at all surface baiting points. Do not throw product on the ground. Do not place the product in water courses or sinks, do not pour down the drain. Do not open the bottle, unless attaching to the roll-on dispenser. Remove all remains of bait, dead rodents during and after treatment and dispose of safely. Prevent access to bait by children, domesticated animals and pets, (particularly cats, dogs and pigs). Harmful to wildlife.

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	H Phrases
Difenacoum Technical Material CAS Number: 56073-07-5	Reproduction toxicity category 1B Acute Tox category 1 (oral) Acute Tox category 1 (Inhalation - mist) Acute Tox category 1 (dermal) STOT RE 1 Aquatic Acute category 1 Aquatic Chronic category 1	0.005%w/w	H360D H300 H330 H310 H372 H400 H410
Denatonium Benzoate CAS Number: 3734-33-6	Acute Tox category. 4 Skin Irrit category. 2 Eye Dam category. 1 Aquatic Chronic category 3	0.001% w/w	H302 H332 H315 H318 H412

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

4 First Aid measures

4.1. Description of first aid measures

Move the person away from the contaminated area and remove any contaminated or spattered clothing.

Keep the patient at rest and maintain body temperature.

Check breathing. If necessary, give artificial respiration.

If person is unconscious, turn them onto their side, with the head lower than the rest of the body and the knees bent.

If necessary take the person to a hospital and show the label or packaging when possible.

DO NOT LEAVE POISONED PERSON ALONE UNDER ANY CIRCUMSTANCE.

Ingestion (swallowing): Wash out mouth with water. Do not induce vomiting. Seek medical advice immediately.

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, without rubbing. Remove and launder any contaminated clothing.

Eye contact: In case of contact with eyes, remove contact lenses if present and rinse the eye slowly and gently with water for 15-20minutes. Seek medical advice immediately.

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

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). For comprehensive medical advice on the treatment of poisoning, contact the nearest Poisons Information Centre. The National Poisons Information Centre, Beaumont Hospital, Dublin (01-8092166), retain the label for reference.

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 a chemical protection suit, self-contained breathing apparatus and an airtight suit in the immediate vicinity of the product or stream.

Should keep containers cool by spraying with water.

Spray with water to reduce fire emissions.

Check that the water to extinguish the fire did not reach any water channel or drains. If this occurs, notify authorities.

Fires in confined spaces must be extinguished by qualified personnel with correct breathing equipment.

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:

Dangerous to aquatic organisms.

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.

6.3. Methods and material for containment and cleaning up:

Mix spillage with sand, earth or sepiolite. Wash the contaminated area once absorbent material is removed. Absorbent material and washing water used should be stored in a suitable container, as outlined in section 13. For large spills, use barricades of absorbent material to prevent spreading. Mark contaminated area.

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**

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.

7.2. Conditions for safe storage, including any incompatibilities

Store in original container under cool and dry conditions in a secure, well ventilated place, inaccessible to children, and away from foodstuffs and animal feedstuffs. Store and transport away from products which may have an odour

7.3. Specific end use(s)

Use as a rodenticide according to label instructions.

8 Exposure controls and personal protection

8.1. Control parameters

Maximum Exposure:

Values related to the active ingredient Difenacoum Assessment Report (Directive 98/8 EC).

AOEL (acceptable operators' exposure limit) sub chronic and chronic 0.0011 mcg/kg bw/day.

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: Purple liquid

Odour: odourless.

Odour Threshold: not applicable

pH: 7

Melting point/freezing point: no available data

Initial boiling point and boiling range: no available data

Flash point: no available data

Evaporation rate: not applicable

Flammability: Not flammable

Upper/lower flammability or explosive limit: not applicable

Vapour pressure: not applicable

Vapour density: not applicable

Relative density: 1.06 gr/ml

Solubility(ies): no available data
Partition coefficient: no available data
Auto-ignition temperature: Not applicable
Decomposition temperature: no available data
Viscosity: not applicable
Explosive properties: None
Oxidising properties. Not fire propagating.

9.2. Other information: No available data.

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 under normal conditions.

10.4. Conditions to avoid: Keep the product out of direct sunlight and other sources of heat above 40 degrees.

10.5. Incompatible materials: Avoid contact with strong oxidising agents, strong acids and metals such as tin and soft steel.

10.6. Hazardous decomposition products: There should not be hazardous decomposing products under normal conditions of storage and use. However, 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 1.8 mg/kg. Ingestion of high doses cause bleeding. Dermal DL50 63 mg/Kg bw.

Dermal:

3.646-5.848 mcg/L/4h

16.27-20.74 mcg/L/4h

Inhalation of this product is not lightly. Doing so could cause coughing and nasal secretions. Studies show that repeated oral exposure to Difenacoum has toxic effects (lethal bleeding) that can cause severe damage to health due to prolonged exposure. Based on results of acute dermal and inhalation toxicity, and extrapolation, there is also a risk of severe damage to health with prolonged exposure to the skin.

(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 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. When anticoagulation occurs, there are coagulation plasma clotting factors that allow the development of the clotting time over four to ten days so that the animal doesn't associate its gradual weakness with the ingestion of the anticoagulant.

In a first-generation anticoagulant, the blocking activation of coagulation factors doesn't happen fully and takes less time than half of the animals' life, so it is necessary to repeat the intake until concentration factors are low. For second generation anticoagulants such as Bromadiolone, the blocking activation of coagulant factors is much greater and perhaps a single intake may be sufficient (depending on the state of the animal) but the larger number of intakes ensures a total block of the coagulation cycle.

(e) Mutagenicity/Carcinogenicity: Product does not contain any ingredients known to have such effects.

(f) Reproductive toxicity: : Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from the properties of the individual components

11.2 Other data: see section 2.3

12 Ecological information

12.1. Toxicity: The Difenacoum in this product is classified as very 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

Information on: Difenacoum

Toxicity to fish:

LC50 (96 h) 0.064 mg/l, *Oncorhynchus mykiss* (Directive 92/69/EEC, C.1)

Information on: Difenacoum

Aquatic invertebrates:

EC50 (48 h) 0.52 mg/l, *Daphnia magna* (Directive 92/69/EEC, C.2)

Pseudomonas putida 6 h EC50 >2.3 mg/l

Information on: Difenacoum

Aquatic plants:

No observed effect concentration (72 h) 0.25 mg/l (growth rate), *Pseudokirchneriella subcapitata*.

Effects on earthworms and other non-target soil organisms:

Eisenia Fetida LC50 more than 994 mg/kg dry weight.

Toxicity on Birds:

Japanese quail LD50 133 mg/KG female

Bobwhite quail LD50 56 mg/KG female

Mammals

LD50 Male rat 1,8 mg/kg. Rata Female rat 5-50 mg/kg

12.2. Persistence and degradability: Difenacoum is highly stable and hardly bio-degradable.

12.3. Bio-accumulative potential:

Bioaccumulation potential: High potential of bioaccumulation

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is possible.

12.4. Mobility in soil: Experimental evidence shows that Difenacoum cannot mobilize in soil.

Assessment transport between environmental compartments: No available information.

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5. Results of PBT and vPvB assessment: Does not meet requirement for assessment

12.6. Other adverse effects: None known

13 Disposal considerations**13.1. Waste treatment methods**

- 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.
- Empty containers completely (as far as possible). Dispose of contaminated, empty containers as spent bait (see below)
- Do not dispose of the product or its container in lakes, natural water systems or drains.
- Do not reuse empty containers for other purposes.
- Contact supplier, local authority or Environment Agency for advice about disposal of waste items.
- Incinerating is the recommended method for disposal of the product and packaging.

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: Store the product in original sealed container.
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:

Classification & 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:

H300: Fatal if swallowed.
 H302: Harmful if swallowed
 H310: Fatal in contact with skin
 H315: Causes skin irritation
 H318: Causes serious eye damage
 H330: Fatal if inhaled
 H332: Harmful if inhaled
 H360D: May Damage the unborn child
 H372: May cause damage to organs through prolonged or repeated exposure
 H400: Very toxic to aquatic life
 H410: Very toxic to aquatic life with long lasting effects.
 H412: Harmful to aquatic life with long lasting effects

Date of amendment	Sections amended	notes
11-12-2017	All sections	This SDS was first written

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.