

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 27.05.2021



Version number 1

Revision: 27.05.2021

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** Frischköder Difenacoum
- **Authorisation No.:** DE-0001526-14
- **UFI:** XMP3-7FA8-D10R-7JSN
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture**  
Biocide  
PT 14
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Detia Freyberg GmbH  
Dr.Werner-Freyberg-Str. 11  
D-69514 LAUDENBACH  
GERMANY
- **Further information obtainable from:**  
Detia Freyberg GmbH - Regulatory Affairs  
telephone: +49-6201-708-0  
e-mail: sicherheitsdatenblaetter@Detia-Freyberg.de
- **1.4 Emergency telephone number:**  
Medical Emergency information in case of poisoning: Poison Information Center Mainz - Phone: +49 (0) 6131 19240 (advisory service 24/7 in German or English language)  
General emergency number: 112

#### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
-  GHS08 health hazard
- Repr. 1B H360D May damage the unborn child.  
STOT RE 2 H373 May cause damage to the blood through prolonged or repeated exposure.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**
-  GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:**  
3-(3-biphenyl-4-yl-1,2,3,4-tetrahydro-1-naphthyl)-4-hydroxycoumarin
- **Hazard statements**  
H360D May damage the unborn child.

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H373 May cause damage to the blood through prolonged or repeated exposure.

- **Precautionary statements**

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P405 Store locked up.
- P501 Dispose of contents/container to the collection point for problematic substances or to an authorized collector for hazardous waste.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Difenacoum meets the P, B and T criteria.
- **vPvB:** Difenacoum meets the vP criterion.

### SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 111-46-6 EINECS: 203-872-2	2,2'-oxybisethanol ⚠ Acute Tox. 4, H302	1,17%
CAS: 56073-07-5 EINECS: 259-978-4	3-(3-biphenyl-4-yl-1,2,3,4-tetrahydro-1-naphthyl)-4-hydroxycoumarin ⚠ Acute Tox. 1, H300; Acute Tox. 1, H310; Acute Tox. 1, H330; ⚠ Repr. 1B, H360D; STOT RE 1, H372; ⚠ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10) Specific concentration limits: Repr. 1B; H360: C ≥ 0,003 % STOT RE 1; H372: C ≥ 0,02 % STOT RE 2; H373: 0,002 % ≤ C < 0,02 %	0,005%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information:**

Avoid any unnecessary contact with the product.  
Symptoms of poisoning may even occur after several hours.

- **After inhalation:**

Supply fresh air, contact the poison information center or consult a doctor in case of complaints.

- **After skin contact:**

Wash off immediately with soap and plenty of water. If the problems are persistent, consult a doctor.

- **After eye contact:**

Rinse eyes under running water for several minutes with the eyelid wide open. Remove any contact lenses that may be present and continue rinsing.  
Consult a doctor for control and if eye irritation persists.

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**· After swallowing:**

Rinse out mouth.  
Administer medicinal carbon.  
Call a doctor or poisoning center immediately.  
Do not induce vomiting.

**· 4.2 Most important symptoms and effects, both acute and delayed**

Hemorrhages (large areas of bruising) and bleeding from the mucous membranes are typical of anticoagulant poisoning. In severe cases, blood appears in the stool and urine.

**· 4.3 Indication of any immediate medical attention and special treatment needed**

Antidote: Vitamin K1

In case of accident or if you feel unwell seek medical help immediately. If necessary show label.  
**MEDICAL PRACTICE:** The product is an anticoagulant. Phytomenadione, vitamin K1, is an antidote. Determine the prothrombin times not less than 18 hours after consumption. If the levels are increased, administer vitamin K1 in divided doses until the prothrombin time is normalized. Continue determining the prothrombin time for another 2 weeks after discontinuation of the antidote and resume treatment as values are increased again.

**SECTION 5: Firefighting measures****· 5.1 Extinguishing media****· Suitable extinguishing agents:**

Use fire extinguishing methods suitable to surrounding conditions.  
Carbon dioxide  
Fire-extinguishing powder  
Water spray  
Foam

**· 5.2 Special hazards arising from the substance or mixture**

No further relevant information available.

**· 5.3 Advice for firefighters**

Do not inhale smoke / gases that are generated during a fire. Cool non-burning containers with water and remove them from the fire area if possible.  
Collect contaminated extinguishing water separately. It must not enter the sewage system.

**· Protective equipment:** Wear self-contained respiratory protective device.**SECTION 6: Accidental release measures****· 6.1 Personal precautions, protective equipment and emergency procedures**

Observe the information on exposure limitation and put on personal protective equipment (Section 8).  
Ensure adequate ventilation.  
Keep unprotected persons not working in the area away from the danger area. The danger area is to be made clear by warning signs.

**· 6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.

**· 6.3 Methods and material for containment and cleaning up:**

Pick up mechanically.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

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**6.4 Reference to other sections**

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

### SECTION 7: Handling and storage

**7.1 Precautions for safe handling**

- Please observe the regulations of GefStoffV and TRGS 500!
- This product is only allowed to be used by trained persons.
- Ensure good ventilation/exhaustion at the workplace.
- Open and handle receptacle with care.
- Prevent formation of dust.

Advice on general hygiene in the workplace:

Take off contaminated clothing immediately. Wash hands after use. Do not eat, drink or smoke in work areas. Remove contaminated clothing and protective equipment before entering any eating area. Do not store food and drinks with chemicals. Do not use containers for chemicals that are normally intended for holding food. Keep away from food, drink and animal feed. Do not breathe gas / vapor / aerosol. Avoid contact with eyes and skin.

- **Information about fire - and explosion protection:** No special measures required.

**7.2 Conditions for safe storage, including any incompatibilities**
**Storage:**
**Requirements to be met by storerooms and receptacles:**

- Keep container tightly closed and store in a cool, well-ventilated place.
- Keep out of the reach of children and pets.

**Information about storage in one common storage facility:**

- Please observe the regulations of TRGS 510!
- Do not store food and drinks with chemicals. Do not use containers for chemicals that are normally intended for holding food. Keep away from food, drink and animal feed.

- **Further information about storage conditions:** None.

**Storage class:**

- 6.1D (non-flammable, acutely toxic cat. 3 / toxic or chronically acting hazardous substances)

- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**
**Ingredients with limit values that require monitoring at the workplace:**
**111-46-6 2,2'-oxybisethanol**

AGW (Germany)	Long-term value: 44 mg/m <sup>3</sup> , 10 ppm 4(II);DFG, Y, 11
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- **Additional information:** The lists valid during the making were used as basis.

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#### · 8.2 Exposure controls

##### · Individual protection measures, such as personal protective equipment

##### · General protective and hygienic measures:

Technical and organizational protective measures are to be used with preference (personal protective equipment must not be a permanent measure).

Wash hands before breaks and at the end of work.

Store protective equipment separately, check it regularly, clean it and replace it if necessary.

Keep away from foodstuffs, beverages and feed.

Avoid contact with the eyes and skin.

##### · Respiratory protection: Not required with normal use and adequate ventilation.

##### · Hand protection



Protective gloves according to EN ISO 374-1 type A

The selection of a suitable glove does not only depend on the material, but also on other quality features and varies from manufacturer to manufacturer. Please contact your occupational safety advisor together with this safety data sheet.

Observance of the skin protection and hand hygiene plans of the professional association for health service and welfare for pest control.

##### · Eye/face protection

Not required if used as intended. Wear protective goggles if there is a risk of contact with the eyes.

##### · Body protection: Wear long-sleeved work clothes and safety shoes.

### SECTION 9: Physical and chemical properties

#### · 9.1 Information on basic physical and chemical properties

##### · General Information

##### · Physical state

Solid

##### · Colour:

Red

##### · Odour:

Odourless

##### · Odour threshold:

Not determined.

##### · Melting point/freezing point:

Undetermined.

##### · Boiling point or initial boiling point and boiling range

Undetermined.

##### · Flammability

Not determined.

##### · Lower and upper explosion limit

##### · Lower:

Not determined.

##### · Upper:

Not determined.

##### · Flash point:

Not applicable.

##### · Auto-ignition temperature:

Product is not selfigniting.

##### · Decomposition temperature:

Not determined.

##### · pH

Not applicable.

##### · Viscosity:

##### · Kinematic viscosity

Not applicable.

##### · Dynamic:

Not applicable.

##### · Solubility

##### · water:

Insoluble.

##### · Partition coefficient n-octanol/water (log value)

Not determined.

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· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not applicable.
· Particle characteristics	See item 3.
<b>9.2 Other information</b>	
· Appearance:	
· Form:	Solid
· Important information on protection of health and environment, and on safety.	
· Explosive properties:	Product does not present an explosion hazard.
· Solvent content:	
· Organic solvents:	1,2 %
· Solids content:	100,0 %
· Change in condition	
· Evaporation rate	Not applicable.
· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

#### SECTION 10: Stability and reactivity

- **10.1 Reactivity** This material is not reactive under normal environmental conditions.
- **10.2 Chemical stability**
- **Information on the shelf life** 24 months
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

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#### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values:**

**111-46-6 2,2'-oxybisethanol**

Oral	LD50	12.565 mg/kg (Rat (Rattus spec.))
Dermal	LD50	11.890 mg/kg (Rabbit (Oryctolagus spec.))

**56073-07-5 3-(3-biphenyl-4-yl-1,2,3,4-tetrahydro-1-naphthyl)-4-hydroxycoumarin**

Oral	LD50	1,8 mg/kg (Rat (Rattus spec.))
Dermal	LD50	51,4 mg/kg (Rat (Rattus spec.))
Inhalative	LC50/4 h	0,00346 mg/l (Rat (Rattus spec.))

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** May damage the unborn child.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**  
May cause damage to the blood through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

- **11.2 Information on other hazards**

- **Endocrine disrupting properties**

None of the ingredients is listed.

#### SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

**56073-07-5 3-(3-biphenyl-4-yl-1,2,3,4-tetrahydro-1-naphthyl)-4-hydroxycoumarin**

EC10/ 6h	>2,3 mg/l (Pseudomonas (P. putida)) (based on water solubility at pH 5.2 and T = 20°C)
LC50/ 48h	0,52 mg/l (Daphnia magna)
LC50/ 96h	0,064 mg/l (Rainbow trout (Oncorhynchus mykiss))
ErC50/ 72h	0,8 mg/l (Algae)

- **12.2 Persistence and degradability**

Difenacoum is not readily or inherently biodegradable and it is hydrolytically stable. Photolytic half-life in water is 3-8 hours in the pH range 5-9. The half-life of 439 day at 20 °C (833 days at 12 °C) was determined in the aerobic soil degradation test.

- **12.3 Bioaccumulative potential** No further relevant information available.

- **Bioconcentration factor (BCF)**

Difenacoum:

BCF Fish 35,645 (calculated using an estimated log Kow value of 7.6)

BCF Fish 9.010 (calculated according to the EPA EPIWIN BCF estimator using the log Kow value of 7.6)

BCF earthworm 477,729 (calculated using the estimated log Kow value of 7.6)

- **12.4 Mobility in soil** No further relevant information available.

- **12.5 Results of PBT and vPvB assessment**

- **PBT:** Difenacoum meets the P, B and T criteria.

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- **vPvB:** Difenacoum meets the vP criterion.
- **12.6 Endocrine disrupting properties**  
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

#### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**  
The disposal of the contents / container is to be carried out in consultation with the regional disposal company in accordance with official regulations according to the waste code number in accordance with the European waste catalog. Waste codes are not related to the product but to the application.  
Product: 200119 \* - Pesticides  
  
Container: 150110 \* - packaging containing residues of or contaminated by dangerous substances
- **Uncleaned packaging:**
- **Recommendation:**  
Uncontaminated and completely emptied packaging can be recycled.  
Treat contaminated packaging like the substance.

#### SECTION 14: Transport information

- |   |                 |
|---|-----------------|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN number or ID number</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> </ul>                             | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> </ul>                            | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul> | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>   | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> </ul>  | Not applicable. |
| <ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> </ul>  | Not applicable. |
| <ul style="list-style-type: none"> <li>· <b>14.7 Maritime transport in bulk according to IMO instruments</b></li> </ul>                                   | Not applicable. |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>   | not regulated   |

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#### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

REGULATION (EU) No 528/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 May 2012 concerning the making available on the market and use of biocidal products  
 REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

- **Directive 2012/18/EU**

- **Named dangerous substances - ANNEX I** None of the ingredients is listed.

- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 30

- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

- **REGULATION (EU) 2019/1148**

- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

- **National regulations:**

Protective guideline BP 2142: "Control of rodents: application of shaped baits and pastes"

Protection guideline BP 1141: "Control of rodents: basic measures"

The specifications of the Technical Rules for Hazardous Substances (TRGS) 401 (Risk from skin contact - determination, assessment, measures) 523 (Pest control with very toxic, toxic and harmful substances and preparations) must be observed.

The specifications of the Technical Rules for Biological Agents (TRBA) 230 (protective measures for activities with biological agents in agriculture and forestry and for comparable activities) and 500 (basic measures for activities with biological agents) must be observed.

The leaflet no. 3102 "Diseases transmitted from animals to humans" must be observed.

- **Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

- **Technical instructions (air):**

Class	Share in %
NK	1,2

- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

#### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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**· Relevant phrases**

- H300 Fatal if swallowed.
- H302 Harmful if swallowed.
- H310 Fatal in contact with skin.
- H330 Fatal if inhaled.
- H360D May damage the unborn child.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

**· Classification according to Regulation (EC) No 1272/2008**

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

**· Department issuing SDS: Regulatory Affairs****· Contact: sicherheitsdatenblaetter@detia-freyberg.de****· Date of previous version: 27.05.2021****· Abbreviations and acronyms:**

- UFI: Unique Formular Identifier
- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 1: Acute toxicity – Category 1
- Acute Tox. 4: Acute toxicity – Category 4
- Repr. 1B: Reproductive toxicity – Category 1B
- STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

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