

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

1.1. Product identifier

Product form	: Mixture
Trade name	: Viryl
Product code	: RD-BRD-40022 40023 40122 43004 43010 43104
Type of product	: Rodenticides, Biocidal products (e.g. Disinfectants, pest control)
Product group	: Biocide

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category	: Professional use
Use of the substance/mixture	: Mus musculus, Rattus norvegicus, Rattus rattus
Use of the substance/mixture	: Rodenticides
Function or use category	: Pesticides, non-agricultural (Biocides)

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Armosa Tech
Rue des Tuilliers 1
4480 Engis - Belgique
T +32 (0)85 519 519 - F +32 (0)85 519 510
msds@armosa.tech - www.armosa.tech

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Mixtures/Substances: SDS EU > 2015: According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

Reproductive toxicity, Category 1A	H360D
Specific target organ toxicity – Repeated exposure, Category 2	H373
Full text of H-statements: see section 16	

Adverse physicochemical, human health and environmental effects

May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS08

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H360D - May damage the unborn child.
H373 - May cause damage to organs (blood) through prolonged or repeated exposure (oral).

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Precautionary statements (CLP) : P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P260 - Do not breathe dust.
 P280 - Wear protective gloves.
 P308+P313 - IF exposed or concerned: Get medical advice/attention. medical advice.
 P314 - Get medical advice/attention if you feel unwell.
 P405 - Store locked up.
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

This substance meets the PBT criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
PROPYLENE GLYCOL substance with national workplace exposure limit(s) (LV)	CAS-No.: 57-55-6 EC-No.: 200-338-0 REACH-no: 01-2119456809-23	3.16 – 3.18	Not classified
potassium (E,E)-hexa-2,4-dienoate	CAS-No.: 24634-61-5 EC-No.: 246-376-1 EC Index-No.: 019-003-00-3 REACH-no: 01-2119950315-41	0.2	Eye Irrit. 2, H319
Brodifacoum (ISO); 4-hydroxy-3-(3-(4'- bromo-4-biphenyl)- 1,2,3,4-tetrahydro-1- naphthyl)coumarin (Active substance (Biocide))	CAS-No.: 56073-10-0 EC-No.: 259-980-5 EC Index-No.: 607-172-00-1	0.005	Acute Tox. 1 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 1 (Inhalation), H330 Repr. 1A, H360D STOT RE 1, H372 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)

Specific concentration limits

Name	Product identifier	Specific concentration limits
Brodifacoum (ISO); 4-hydroxy-3-(3-(4'- bromo-4-biphenyl)- 1,2,3,4-tetrahydro-1- naphthyl)coumarin (Active substance (Biocide))	CAS-No.: 56073-10-0 EC-No.: 259-980-5 EC Index-No.: 607-172-00-1	(0.002 ≤C < 0.02) STOT RE 2, H373 (0.003 ≤C ≤ 100) Repr. 1A, H360D (0.02 ≤C ≤ 100) STOT RE 1, H372

Full text of H- and EUH-statements: see section 16

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Not relevant.
First-aid measures after skin contact	: Rinse immediately with plenty of water. Wash with soapy water.
First-aid measures after eye contact	: Rinse with water while holding the eyes wide open.
First-aid measures after ingestion	: Rinse mouth out with water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If swallowed, seek medical advice immediately and show this container or label. Contact a veterinary surgeon in case of ingestion by a pet.

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

Symptoms/effects	: This product contains an anticoagulant substance. If ingested, symptoms, which may be delayed, may include nosebleed and bleeding gums. In severe cases, there may be bruising and blood present in the faeces or urine.
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4.3. Indication of any immediate medical attention and special treatment needed

Antidote: Vitamin K1.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Mechanically recover the product. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

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6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray.
- Hygiene measures : Separate working clothes from town clothes. Launder separately. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a dry, cool and well ventilated place. Keep the container closed and away from direct sunlight. Store in places prevented from the access of children, birds, pets and farm animals.
- Maximum storage period : 2 year

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment



8.2.2.1. Eye and face protection

Safety glasses

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8.2.2.2. Skin protection

None under normal conditions

Wear protective chemical resistant gloves during product handling phase (EN374).

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves, Reusable gloves	Polyvinylalcohol (PVA), Nitrile rubber (NBR)				EN ISO 374-1

8.2.2.3. Respiratory protection

[In case of inadequate ventilation] wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Avoid release to the environment.

Do not eat, drink or smoke when using this product. The professional use of this product by pregnant or nursing mothers or young workers is restricted or completely prohibited. The legal bases and precise provisions in this area are set out in Section 15.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Blue.
Appearance	: Grains.
Odour	: Barely perceptible.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not applicable
Boiling point	: Not available
Flammability	: Non flammable.
Explosive limits	: Not applicable
Lower explosive limit (LEL)	: Not applicable
Upper explosive limit (UEL)	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: Not available
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: Not available
Relative density	: Not applicable
Relative vapour density at 20 °C	: Not applicable
Particle size	: Not available
Particle size distribution	: Not available

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Particle shape	: Not available
Particle aspect ratio	: Not available
Particle aggregation state	: Not available
Particle agglomeration state	: Not available
Particle specific surface area	: Not available
Particle dustiness	: Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Additional information	: Anti-coagulant

Viryl	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
Brodifacoum (ISO); 4-hydroxy-3-(3-(4'-bromo-4-biphenyl)-1,2,3,4-tetrahydro-1-naphthyl)coumarin (56073-10-0)	
LD50 oral rat	0.27 mg/kg
LD50 dermal rat	7.48 g/kg
potassium (E,E)-hexa-2,4-dienoate (24634-61-5)	
LD50 oral rat	> 10000 mg/kg

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potassium (E,E)-hexa-2,4-dienoate (24634-61-5)	
LD50 dermal rat	> 2000 mg/kg
LC50 Inhalation - Rat	> 5.15 mg/l/4h
PROPYLENE GLYCOL (57-55-6)	
LD50 oral rat	≥ 2000 mg/kg
LD50 dermal rat	> 2000
LC50 Inhalation - Rat	317 mg/l
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: May damage the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: May cause damage to organs (blood) through prolonged or repeated exposure (oral).
Brodifacoum (ISO); 4-hydroxy-3-(3-(4'- bromo-4-biphenylyl)- 1,2,3,4-tetrahydro-1- naphthyl)coumarin (56073-10-0)	
STOT-repeated exposure	Causes damage to organs (blood) through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Viryl	
Viscosity, kinematic	Not applicable

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. This product contains components which are toxic to fauna.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Brodifacoum (ISO); 4-hydroxy-3-(3-(4'- bromo-4-biphenylyl)- 1,2,3,4-tetrahydro-1- naphthyl)coumarin (56073-10-0)	
LC50 - Fish [1]	0.042 mg/l Onchorhynchus mykiss
EC50 - Crustacea [1]	0.25 mg/l Daphnia magna
ErC50 algae	0.04 mg/l
potassium (E,E)-hexa-2,4-dienoate (24634-61-5)	
LC50 - Fish [1]	> 1000 mg/l Onchorhynchus mykiss (Rainbow trout)
EC50 - Crustacea [1]	982 mg/l
PROPYLENE GLYCOL (57-55-6)	
LC50 - Fish [1]	4600 mg/l
EC50 - Crustacea [1]	4850 mg/l

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12.2. Persistence and degradability

Viryl

Persistence and degradability	Not readily biodegradable.
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potassium (E,E)-hexa-2,4-dienoate (24634-61-5)

Persistence and degradability	Readily biodegradable.
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12.3. Bioaccumulative potential

Viryl

Bioaccumulative potential	Potentially bioaccumulable.
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PROPYLENE GLYCOL (57-55-6)

Partition coefficient n-octanol/water (Log Pow)	-1.07 – -0.9
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12.4. Mobility in soil

Viryl

Ecology - soil	Low mobility (soil).
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12.5. Results of PBT and vPvB assessment

Viryl

This substance meets the PBT criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Other adverse effects : To protect birds/wild mammals remove spillages
Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: At the end of the treatment, dispose the uneaten bait and the packaging in accordance with local requirements. Dispose of this material and its container at hazardous or special waste collection point. Once treatment is complete, dispose of the bait that has not been eaten and the packaging in an appropriate collection circuit. Packaging and leftovers (consumed or not) of rodenticides are considered hazardous waste. Removal and destruction must be carried out by a specialised or approved company.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable

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14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

14.3. Transport hazard class(es)

Transport hazard class(es) (ADR)	: Not applicable
Transport hazard class(es) (IMDG)	: Not applicable
Transport hazard class(es) (IATA)	: Not applicable
Transport hazard class(es) (ADN)	: Not applicable
Transport hazard class(es) (RID)	: Not applicable

14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

14.6. Special precautions for user

No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

This product contains biocidal products

Type of product (Biocide) : 14 - Rodenticides

Authorisation number :

Contains : Brodifacoum (ISO); 4-hydroxy-3-(3-(4'- bromo-4-biphenyl)- 1,2,3,4-tetrahydro-1-naphthyl)coumarin (0.01 %)

15.1.2. National regulations

Belgian National Regulations : Subject to Biocides closed circuit.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Other information : **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The contents and format of this SDS are in accordance with Regulation (EC) N° 453/2010 of the European Parliament and of the Council. Use biocides and pesticides safely. Always read the label and product information before use.

Full text of H- and EUH-statements	
Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 1 (Inhalation)	Acute toxicity (inhal.), Category 1
Acute Tox. 1 (Oral)	Acute toxicity (oral), Category 1
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 1A	Reproductive toxicity, Category 1A
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H360D	May damage the unborn child.

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Full text of H- and EUH-statements	
H372	Causes damage to organs through prolonged or repeated exposure.
H373	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.

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.