

PULSE LIQUID BAIT - SDS

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1) IDENTIFICATION OF THE SUBSTANCE/PREPARATION

Product identifier

Identification as on the label/Trade name: Pulse Liquid Bait

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

Intended use: The product is an anti-coagulant bait used in the control of the Roof rat, Norway rat, House mouse and Gerbil and other commensal rodents.

Uses advised against: Use only as directed.

Manufactured & distributed by: Synvita (Pty) Ltd

Registration Holder: Lifeguard Sciences (Pty) Ltd

Reg. No. 2014/079879/07

3 Pentrich Rd, Masons Mill, Pietermaritzburg, 3202

Tel: 033 3461920

Emergency telephone numbers: Griffon Poison Information (+27) 82 446 8946

Emergency number of National Poison Control Centre: 0861 555 777

2) HAZARDS IDENTIFICATION

Classification of the substances or mixture

The mixture is classified according to

SANS 10234:2008, Regulation EC 1272/2008 [EU-GHS/CLP]	
Hazard classes/Hazard categories	Hazard statement
Acute Oral Toxicity, Category 4	Harmful if swallowed.
Serious Eye Irritation, Category 2	Causes serious eye irritation.
STOT (repeated exposure), Category 1	Causes damage to organs through prolonged or repeated exposure (blood).

For full text of H statements see section 16

The most important adverse effects

The most important adverse physiochemical effects: None.

The most important adverse human health effects: Causes eye irritation. May be harmful if swallowed. Causes damage to organs through prolonged or repeated exposure (blood).

Label elements

Hazard pictograms:**Signal Word: Warning****Hazard Statements:**

H302: Harmful if swallowed.

H319: Causes serious eye irritation.

H372: Causes damage to organs through prolonged or repeated exposure (blood)

Precautionary Statements: P260 Do not breathe dust/fume/gas/mist/vapours/spray. P319 Get medical help if you feel unwell. P264+P265 Wash affected area thoroughly after handling. Do not touch eyes. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/ protective clothing/eye protection/face protection. P301+ P317 IF SWALLOWED: Get medical help. P330 Rinse mouth. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. P337+P317 If eye irritation persists: Get medical help.

Special labelling of certain mixtures: None.**Other Hazards:** None**3) COMPOSITION / INFORMATION ON INGREDIENTS****Substance/Mixture:** Mixture**Ingredients:**

Chemical Name	CAS-No.	Concentrations % by weight	Classification
	EC-No.		EC1272/2008
Brodifacoum	56073-10-0	<0.1%	Acute Toxicity Oral, Category 1 H300 Acute Toxicity Dermal, Category 1 H310 Acute Toxicity Inhalation, Category 1 H330 Reproductive Toxicity, Category 1A H360D STOT (repeated exposure), Category 1 H372 Aquatic Acute, Category 1 H400 (M=10) Aquatic Chronic, Category 1 H410 (M=10)
	259-980-5		
Tetra Sodium Salt (EDTA)	10378-23-1	<2%	Acute Toxicity Oral, Category 4 H302 Serious Eye Damage, Category 1 H318
	600-485-4		
Vanillin	121-33-5	<2%	
	204-465-2		Eye Irritation, Category 2 H319
Denatonium benzoate	3734-33-6	<0.1%	Acute Toxicity Oral, Category 4 H302 Acute Toxicity Inhalation, Category 2 H330 Serious Eye Damage, Category 1 H318
	223-095-2		

For full text of H statements see section 16

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

Description of first aid measures:

In case of inhalation: If inhaled, remove to fresh air. If not breathing, give artificial breathing. If breathing is difficult, give oxygen. Get medical attention immediately.

In case of skin contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

In case of eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Check for and remove any contact lenses. Get medical attention immediately.

In case of ingestion: Do not induce vomiting unless directed to do so by medical personnel. Keep patient calm and reassured, rinse mouth with water. Never give anything by mouth to an unconscious person. Do not apply direct mouth-to-mouth respiration without the use of a disposable protective mouthpiece. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed:

Inhalation: May cause irritation if inhaled.

Ingestions: Harmful if ingested.

Skin contact: May be irritating when in contact with skin and causes irritation.

Eye contact: May cause damage to the eye.

Indication of any immediate medical attention and special treatment needed: Immediate medical attention is required if exposure to the product. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Note to physician:

The efficacy of treatment must be measured by monitoring the Quick time and treatment must only be stopped when the Quick time has returned and remains at normal values. Administer 5mg/kg Vitamin K1 intravenously on the first day followed by another administration of the same dose if the Quick time does not normalise within a few hours of the first injection. Follow up with 5mg/kg per day orally on the second and following days. The duration of treatment is generally between 10 and 15 days. In severe cases, small transfusions of matched fresh blood may improve prothrombin levels.

SECTION 5. FIRE FIGHTING MEASURES

Extinguisher media:

Suitable extinguisher media: Use foam, chemical dry powders, and halogenated agents.

SMALL FIRE: See above.

LARGE FIRE: See above.

Unsuitable extinguishing media: Do not use high volume water jet, due to contamination risk.

Specific hazards arising from the mixture:

Under thermal decomposition Brodifacoum may emit irritating and toxic fumes.

Specific extinguishing methods:

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.

Advice for fire-fighters:

Wear NIOSH/MSHA approved self-contained breathing apparatus and full protective gear. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6) ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Keep all personal and avoid contact.

For emergency responders: Wear appropriate personal protective equipment. Avoid contact and ventilate area of the spill or leakage.

Protective equipment:

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

Emergency procedures:

Alert fire-fighting personnel, evacuate unprotected personal and animals.

Environmental precautions:

Recover and transfer to original or waste container. Prevent spilled product from entering sewers, waterways or ground water. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water/Environmental Affairs.

Methods and materials for containment and cleaning up:

Material for containment and cleaning up:

Cover spillage with sand, earth, or other suitable inert material, carefully shovel up and transfer to salvage container, mark container "HAZARDOUS WASTE". Dispose of as for hazardous waste in accordance with local / national regulations. Do not re-use spill material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations.

For small spills Clean and place in appropriate waste disposal container. Follow local and regional authority requirements.

For large spills Clean and place in appropriate waste disposal container. Follow local and regional authority requirements.

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 information on disposal.

Additional information: None.

7) HANDLING AND STORAGE

Precautions for safe handling:

Store liquid bait in their original packaging away from any edible commodity, food utensils and drinking water. Avoid contact with the skin by wearing rubber gloves and wash exposed skin area after handling. Do not eat, drink, or smoke while handling the bait or before washing hands and face.

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

Advice on general occupational hygiene: practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet, or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used. Do not eat, drink or smoke when handling this product.

Conditions for safe storage, including incompatibilities: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in original container, labelled container, tightly closed, in an isolated, dry cool and well- ventilated area. Store product in a segregated and approved area.

Incompatible substances:

Store away from incompatible materials, heat, sun and source of ignition. Keep away from oxidizing agents and acids.

Specific end uses:

Not applicable.

8) EXPOSURE CONTROL/PERSONEL PROTECTION**Control parameters:**

Occupational exposure limits (OEL): None known.

Biological exposure indices (BEI): None known.

Additional exposure limits under the conditions of use: None known.

Exposure control:

Appropriate engineering controls: Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Where there is 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.

Respiratory protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998.

Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hand protection: It is a good industrial hygiene practice to prevent skin contact. Use rubber/chemical impermeable gloves.

Eye/face protection: Risk of contact: Wear approved safety goggles. Contact lenses is not protective eye devices.

Skin and body protection: Employee must wear appropriate proactive impervious clothing: rubber boots, hat and equipment to prevent repeated or prolonged skin contact when working with chemicals. Do not wear leather clothing. Apron and long sleeves are recommended.

Environmental exposure controls: Environmental manager must be informed of all major spillages.

9) PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Appearance (form)	: Liquid.
Colour	: Blue.
Odour	: Vanillin-like odour.
Solubility:	: Very soluble
PH:	: 9
Melting point/ range (°C):	: Not known.
Boiling point/ range (°C):	: 190°C
Flammability	: Not known.
Flammability limit	: Not known.
Flash point (°C):	: Not known.
Auto-ignition temperature	: Not known.
Decomposition temperature	: Not known.

pH	: Not known.
Kinematic viscosity	: Not known.
Solubility	: Very soluble.
Partition coefficient	: Not known.
Vapour pressure (°C):	: Negligible @20°C.
Density	: 1050 g/Lt.
Relative vapour density	: Not known.
Particle characteristics	: Not applicable.
Physical hazards:	
Explosive properties	: Not known.
Oxidising properties	: Not known.
Other information:	
Fat solubility (solvent-oil to be specified)	: Not known.
Bulk density	: Not known.
Dissociation constant in water (p Ka)	: Not known.
Oxidation-reduction potential	: Not known.

10) STABILITY AND REACTIVITY

Reactivity: The product is stable under normal warehouse conditions.

Chemical stability: Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.

Possibility of hazardous reactions: No hazardous reactions are foreseeable in normal conditions of use and storage.

Conditions to avoid: Incompatible material. High temperature. Poor ventilation. Contamination. Moisture/high humidity.

Incompatible materials: Store away from incompatible materials, heat, sun and source of ignition. Keep away from oxidizing agents and acids.

Hazardous decomposition products: Pyruvic and acetic acid.

11) TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Acute toxicity	
Acute Oral LD ₅₀ (rat)	<1000 mg/kg classified for category 4.
Acute Dermal LD ₅₀ (rats):	>5000 mg/kg not classified.
Acute Inhalation LC ₅₀ 4 h 20 °C (rats)	>20 mg/l not classified.
Skin irritation/ corrosion (rabbits)	Not an irritant.
Eye damage / irritation (rabbits)	Classified as eye irritation
Respiratory or skin sensitization	Not a sensitizer.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Specific Target Organ Toxicity STOT single exposure	Not classified.
Specific Target Organ Toxicity STOT repeated exposure	Not classified.
Aspiration hazard	Not classified.

12) ECOLOGICAL INFORMATION

Anticipated behaviour of the chemical product in the environment /possible environmental impact/ecotoxicity:

Brodifacoum, CAS-No.: 56073-10-0	
Acute toxicity	
Birds: LD ₅₀ for bobwhite quail and mallard ducks Dietary LC ₅₀ (8 d) for bobwhite quail and mallard ducks	No data available
Fish: LC ₅₀ (96 h) for rainbow trout LC ₅₀ (96 h) for carp LC ₅₀ (96 h) for bluegill sunfish LC ₅₀ (96 h) for catfish	0.02 mg/l No data available No data available No data available
Daphnia – toxic to Daphnia EC ₅₀ (48 h)	0.98 mg/l
Algae EC ₅₀ (72 h) for green algae	No data available
Bees: LC ₅₀ (oral) LD ₅₀ (topical)	No data available No data available
Worms Acute LC ₅₀ (14 d)	No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Other adverse effects: No data available

13) DISPOSAL CONSIDERATION

Waste treatment methods:

General Information: Do not discharge into drains, water courses or onto the ground. Discharge, treatment, or disposal may be subject to national, state, or local laws. Empty containers may contain product residues. 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.

Disposal Methods: Destroy the empty container by perforating and flattening and unused product as for toxic waste in accordance with local and /or national regulations. Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site. Do not re-use for any other purpose.

Container: Since emptied containers retain product residue, follow label warnings even after container is emptied.

Product/ packaging disposal:

Treat as hazardous waste and dispose of in accordance with municipal, provincial, and national regulations.

14) TRANSPORT INFORMATION

UN Number: 3026

Un proper shipping name: Coumarin Derivative Pesticide, Liquid, Toxic

UN Classification [transport hazard class(es): Not applicable

Packing group (if applicable): II

Marine pollutant (Y/N): No

15) REGULATORY INFORMATION

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

Relevant information regarding authorization: Regulation for Hazardous Chemical Agents 2021 (RHCA).

Relevant information regarding restrictions:

EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP].

Other National regulations: National Road Traffic Act, 1996 (ACT NO. 93 of 1996).

Chemical Safety Assessment carried out? No.

16) OTHER INFORMATION

Indication of changes:

GHS aligned.

Relevant classification and H statements (number and full text):

H373: Causes damage to organs through prolonged or repeated exposure (blood).

Training instructions:

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

Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Notice to readers:

To the best of our knowledge, the information contained herein is accurate and is based on the present state of our knowledge and does not therefore guarantee specific properties. However, neither the above-named supplier nor any of its subsidiaries assumes any liability whatsoever for any accuracy or completeness of the information contained herein.

Final determinations of suitability of any material are sole responsibility of the users, who must take responsibility for observing existing laws and regulations. All materials may present unknown hazards and should be used with caution. Although