Safety Data Sheet

MOUSEOFF® Zinc Phosphide Bait

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name:	**MOUSEOFF® ZINC PHOSPHIDE BAIT**
Other means of identification:	
Recommended use of the chemical and restrictions on use:	**For the control of mice in agricultural situations.** Not suitable for domestic use. Use according to current APVMA approval. See product label for further use restrictions as per State or Territory.
Supplier:	**Animal Control Technologies (Australia) Pty Ltd**
ABN:	**25 137 868 449**
Street Address:	**46-50 Freight Drive Somerton Vic 3062, Australia**
Telephone No:	**+61 3 9308 9688 (Monday to Friday, 8:00a.m. – 5:00p.m. EST)**
Fax:	**+61 3 9308 9622**
Email:	**enquiries@animalcontrol.com.au**
Distributed by:	**Animal Control Technologies (Australia) Pty Ltd 46-50 Freight Drive Somerton Vic 3062, Australia**
Emergency Telephone:	**Poisons Information Centre 13 11 26 (24 hours)**

2. HAZARDS IDENTIFICATION

Classification of the substance mixture:

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition).

This material is hazardous according to Safe Work Australia; HAZARDOUS SUBSTANCE.

Classification of the substance or mixture:
Acute Oral Toxicity - Category 4

SIGNAL WORD: WARNING



Hazard Statement(s):
H302 Harmful if swallowed.
AUH029/031 Contact with water or acid liberates toxic gas.

Precautionary Statement(s):
Prevention:
P264 Wash hands, arms and face thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Response:
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P330 Rinse mouth.

Disposal:

P501 Dispose of contents/container in accordance with Federal, State and Local Government regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion (w/w)
Zinc phosphide (trizinc diphosphide)	1314-84-7	2.5%
Other components are not considered hazardous in this formulation and therefore are not required to be disclosed according to the WHS Regulations.		

4. FIRST AID MEASURES

Speed in treatment is essential. If poisoning occurs, contact a Poisons Information Centre. Phone Australia 131126; New Zealand 0800 764 766 or a doctor. Have this SDS or the label with you.

Inhalation: Remove the victim to fresh air. Apply artificial respiration. Seek medical attention immediately.

Skin Contact: Remove contaminated footwear and clothing. If skin contact occurs, wash skin thoroughly with soap and water for at least 15 minutes. Take care to thoroughly cleanse area including fingernails and scalp (if applicable). Remove from contaminated area.

Eye Contact: If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

Ingestion: If poisoning occurs get to a doctor or hospital quickly. Remove from contaminated area. Rinse mouth with water. Do not give mouth-to-mouth resuscitation if swallowed. To protect rescuer, use air-viva, oxy-viva or one-way mask. Resuscitate in a well ventilated area.

First Aid Facilities: Eyewash and normal washroom facilities.

Indication of immediate medical attention and special treatment needed: Treat symptomatically. If poisoning occurs, complete bed rest for one to two days is recommended. Poisoning is not chronic and the symptoms should disappear spontaneously. Symptoms of acute poisoning caused by ingestion may include nausea, abdominal pain, excitement, agitation, chills and tightness in chest. Symptoms caused by inhalation may include vomiting, diarrhoea, cyanosis, rapid pulse, fever and shock.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use carbon dioxide or extinguishing powder. Do not use water. Move containers from the area if possible and if safe to do so. Fight fire in early stage only if safe to do so.

Specific hazards arising from the substance or mixture: The product is not readily flammable however contact with water and acid releases flammable and toxic phosphine gas. If there is a build-up of phosphine gas it may ignite when in contact with atmospheric oxygen if the concentration exceeds 1.79%. While kept dry the product is stable for long periods and the fire/explosion risk is minimal. Oxides of phosphorous and oxides of zinc and hydrogen phosphide (phosphine) may be formed in a fire situation.

Special protective equipment and precautions for fire-fighters: Wear respiratory protection. In well ventilated areas wear full face mask with combination filter, e.g. ABEK-P2. In enclosed areas wear a respirator with an independent air supply.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/ Environmental precautions: Shut off all possible sources of ignition is safe to do so. Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/ Protective equipment:	Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact. Work up wind or increase ventilation. If in confined spaces and the bait is in contact with moisture or acids that may cause the release of phosphine gas, staff involved in clean up must wear protective full face gas masks and filter cartridges that protect against toxic gas or wear supplied air respirators.
Methods and materials for containment and cleaning up:	Contain - prevent run off into drains and waterways. While wearing protective equipment, sweep-up spilt bait into dry, properly labelled containers or drums for disposal. Contaminated areas may be decontaminated, after removal of grain, by washing with copious quantities of soapy water.

7. HANDLING AND STORAGE

Precautions for safe handling:	Keep containers closed at all times - check regularly for leaks or spills. Transport and store upright. To avoid risks to people and environment the instructions for use are to be followed. Avoid all contact with the product and wear protective clothing and elbow-length PVC gloves while opening the container and handling bait. Keep out of reach of children. Do not eat, drink or smoke in contaminated areas. Always remove contaminated clothing and wash hands after use and before eating, drinking, smoking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Do not inhale vapour. Do not open containers indoors or in confined spaces and allow good ventilation in working areas.
Conditions for safe storage, including any incompatibilities:	Store in the closed, original container in a dry, cool, well ventilated area out of direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilisers. Store away from acids, water and any sources of heat and ignition. Do not store with oxidising agents. Do not store in buildings inhabited by humans or animals. Only open containers in the open air. Keep working dogs and pets away from baits as they are highly susceptible to the poison and may eat the baits.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:	No value assigned for this specific material by Safe Work Australia. However, the product may evolve phosphine gas which presents a serious toxic risk and there are exposure standards for phosphine. The Exposure Standard for Phosphine: TWA = 0.3ppm (0.42 mg/m^3) STEL = 1.0ppm (1.4 mg/ m^3) As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants. No biological limit allocated.
Appropriate engineering controls:	The product formulation increases the stability of zinc phosphide and dilutes its concentration. Use only in a well ventilated area. Keep containers closed when not in use.

Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

Observe good standards of hygiene and cleanliness. Always wash hands, arms and face thoroughly with soap and water before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment with detergent and warm water before storage or re-use.

Respiratory Protection:	If handling large quantities of bait to fill hoppers wear a full face-piece respirator with combined dust and gas cartridge or supplied air respirator. Consult AS/NZS 1715 and AS/NZS 1716 for further information.
Eye and Face protection:	Eye and face protection is not needed under normal and intended conditions of product use. However if protection is required consult AS/NZS 1336 and AS/NZS 1337 for further information.
Skin Protection:	PVC or chemical resistant gloves must be worn when opening the container and using the product. Always check with the glove manufacturer or your personal protective equipment supplier regarding the correct type of glove to use. Consult AS/NZS 2161 for further information. Trousers, long sleeved shirt or overalls and closed in shoes or safety footwear should be worn as a general precaution. Consult AS/NZS 2210 and AS/NZS 2919 for further information.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Coated wheat.
Colour:	Dark grey to black coloured wheat. Colour varies from grey to black depending on QA titration of the active ingredient and degree of blackness is not a reflection of chemical dosing.
Odour:	Decomposed to liberate phosphine gas which has a distinct garlic like odour.
pH:	No data available for formulation
Bulk Density	No data available for formulation
Melting Point/Freezing Point:	No data available for formulation
Boiling Point/range:	No data available for formulation
Flash Point:	No data available for formulation
Evaporation Point:	No data available for formulation
Vapour Pressure:	No data available for formulation
Vapour Density:	No data available for formulation
Solubility:	Decomposes in water to liberate toxic and flammable phosphine gas.
Partition coefficient: n- octanol/water	No data available for formulation
Auto-ignition Temperature:	Not relevant
Decomposition Temperature:	No data available for formulation
Viscosity:	Not relevant

10. STABILITY AND REACTIVITY

Reactivity:	Non-reactive under normal conditions of use. However reacts with water or acid to liberate toxic and flammable phosphine gas.
Chemical stability:	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous reactions:	Phosphine gas is highly flammable and toxic.
Conditions to avoid:	Water and acids.
Incompatible materials:	Exposure to water and acids can cause liberation of toxic, highly flammable gases.
Hazardous decomposition products:	Phosphine gas.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	No toxicity data for this specific product, however toxicity data for the hazardous ingredient is listed below. Toxicity data for zinc phosphide: Oral LD50 (rat) 21 mg/kg bw

Ingestion:	Poisonous if swallowed. Zinc phosphide will react to stomach acids to liberate phosphine gas which causes toxic effects. Symptoms of ingestion include nausea, abdominal pain, excitement, agitation, chills, vomiting, diarrhoea, cyanosis, rales, restlessness, fever and tightness in chest. Adult deaths have been caused by oral doses of 55-70mg/kg though some individuals have survived acute doses of up to 350-1400 mg/kg if vomiting occurred early and exposure to phosphine was limited.
Inhalation:	Inhalation of phosphine gas may cause vomiting, diarrhoea, cyanosis, rapid pulse, fever and shock. Phosphine gas is rapidly fatal at 2000ppm. Death can occur after ½ - 1h at 400-600ppm, no serious effects after ½ - 1h at levels of 7ppm.
Skin:	Avoid contact with skin. Product is not known to cause irritation to the skin.
Eye:	Avoid contact with eyes. Product is not known to cause irritation to eyes.
Respiratory or skin sensitisation:	Not a skin sensitiser and not expected to be a respiratory sensitiser.
Germ cell mutagenicity:	Not suspected to cause genetic defects.
Carcinogenicity:	Not considered to be a carcinogen.
Reproductive toxicity:	Not considered to be toxic to reproduction.
STOT-single exposure:	Not expected to cause toxicity to a specific target organ.
STOT-repeated exposure:	Not expected to cause toxicity to a specific target organ.
Aspiration hazard:	Not expected to be an aspiration hazard.
Chronic health effects:	The World Health Organisation reports chronic symptoms of phosphine poisoning include tooth ache, weakness, loss of appetite and body weight, and changes to bones causing them to become week, particularly in the jaw. Chronic toxicity studies in rats have found increased weights and lesions in the liver, brain and kidneys, as well as body weight and hair loss.

12. ECOLOGICAL INFORMATION

Ecotoxicity:	No toxicity data for this specific product, however the active constituent, Zinc Phosphide is very toxic to aquatic organisms (LC_{50} Fish 0.3 - 0.8 mg/L), may cause long term adverse effects in the aquatic environment. Any aquatic exposure from the bait is expected to be at very low levels and occur infrequently. Do not contaminate streams, rivers or waterways with the chemical or used containers.
Persistence/degradability:	The bait grains degrade over time in the environment due to the effects of sunlight and rainfall. Zinc phosphide degrades in atmospheric moisture due to the dissolution of carbon monoxide to form weak carbonic acid to release phosphine gas. The product is expected to degrade completely after rain to leave no environmental residues.
Bioaccumulative potential:	Does not bioaccumulate. Low risk of secondary poisoning.
Mobility in Soil:	Not relevant.

13. DISPOSAL CONSIDERATIONS

Disposal methods:	Refer to Waste Management Authority. Dispose of contents/container in accordance with local/regional/national/international regulations. Break, crush or puncture and dispose of empty containers in a local authority landfill. If no landfill is available, bury the containers below 1000 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Excess or unused bait must be buried below 1000 mm. Empty containers and product must not be burnt.

14. TRANSPORT INFORMATION

Road and Rail Transport:	Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.
Marine Transport:	Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON- DANGEROUS GOODS.
Air Transport:	Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON- DANGEROUS GOODS.

15. REGULATORY INFORMATION

Poison Schedule (SUSMP):	7 – DANGEROUS POISON
APVMA:	50532
AICS:	All the constituents of this material are either listed on the Australian Inventory of Industrial Chemicals (Inventory), not required due to the nature of the chemical, or have been assessed under the Industrial Chemicals Act 2019 as amended.

16. OTHER INFORMATION

General Information:	None
Issue Number:	004
Issue Date:	09 August 2021

In any event, the review and, if necessary, the re-issue of an SDS shall be no longer than 5 years after the last date of issue.

Reason(s) for Issue:	Updated ecotoxicity information
Literary Reference:	None
Key abbreviations or acronyms used:	ADG Code - Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition) AICS - Australian Inventory of Chemical Substances AgVet Code Act 1994 – Agricultural and Veterinary Chemicals Code Act 1994 APVMA – Agricultural Pesticides and Veterinary Medicines Australia GHS - Globally Harmonised System of Classification and Labelling of Chemicals (3rd revised edition) 2009 IARC - International Agency for Research on Cancer LD_{50} or LC_{50} – Estimated lethal dose / concentration to kill 50% of the population/sample. Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (December 2016) STEL - Short term exposure limit means the average airborne concentration of a substance calculated over a 15 minute period. The STEL should not be exceeded at any time during a normal eight hour working day. STOT – Specific Target Organ Toxicity SUSMP - Standard for the Uniform Scheduling of Medicines & Poisons SWA - Safe Work Australia, formerly ASCC and NOHSC TGA – Therapeutic Goods Australia WHS – Workplace Health and Safety

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END OF SDS