



APPLICATION SUMMARY

Application code:	HSR09013
Application category:	To import or manufacture any hazardous substance (Major Issue application) under the Hazardous Substances and New Organisms (HSNO) Act 1996
Applicant:	Pest-Tech Limited PO Box 72 275 Papakura Auckland
Applicant contact:	Pest-Tech Ltd.
Purpose:	To import or manufacture Microencapsulated Zinc Phosphide (MZP) as a raw material to manufacture a MZP paste containing zinc phosphide to be used as a vertebrate toxic agent (Major Issue)
Date application received:	22 May 2009
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Application Summary prepared by Pest-Tech Limited

The Microencapsulated Zinc Phosphide (MZP) containing 275g/kg zinc phosphide has hazardous classifications of 4.3C, 6.1B (oral), 6.1D (inhalation), 6.6B, 6.8B, 6.9B, 9.1A and 9.3A. This substance would be imported or manufactured for use only as a raw material in the manufacture of vertebrate toxic agents. The MZP Paste is a ready-to-use paste bait for use as a vertebrate toxic agent (VTA) and contains 15 g/kg zinc phosphide. The MZP Paste has the hazardous classifications of 6.1D (oral), 6.6B, 6.8B, 6.9B, 9.1C and 9.3B. Efficacy data has been generated using the MZP Paste as a hand laid bait in bait stations for the control or eradication of the brush tail possum. The bait may also have potential for control of rats and mice. The hazard classifications indicate MZP paste would not trigger the Default Controls for an Approved Handler or Tracking. Conditions for use as a VTA would still apply applicable to the hazards and any expected potential risks. MZP and MZP Paste are intended for professional use, and not for use in a domestic environment.

The Microencapsulated Zinc Phosphide (MZP) is only for use as a raw material so the HSNO Default controls including those for Tracking and being under the control of an Approved Handler and as a Tracked substance can effectively manage any hazard and life cycle risk. The MZP as a raw material would only be at specific manufacturing sites that would have the required approvals for storage and use. The MZP Paste would be subject to relevant controls under the HSNO Act and other statutory controls including but not limited too, the ACVM Act, and under some circumstances the RMA Act. The MZP and MZP Paste can be disposed of by burying >60 cm below ground level. Unused material, waste or residues containing MZP and MZP Paste can also be burnt in appropriate licensed incinerators. Compliance with these controls will safely and effectively manage any risk during the life cycle of the MZP, or for MZP Paste when used as a Vertebrate Toxic Agent.

Zinc phosphide is insoluble in water and the data indicates it is neither persistent nor bioaccumulative. The MZP Paste has also been shown to be stable under a range of conditions



applicable to the proposed packaging types and storage conditions. The MZP and MZP Paste will degrade on contact with water and more rapidly under acidic conditions. Degradation also occurs after exposure to rainfall over time. The MZP Paste once ingested into the stomach and exposed to acidic conditions releases phosphine which is toxic.

Zinc phosphide has benefits when compared to existing approved toxins as it does not bioaccumulate in animal tissue which may lead to a risk of secondary poisoning of non-target vertebrates, e.g. dogs, and nor is it persistent in the environment. ZP is also identified as being more humane in its effects on target species than some other toxins used in existing VTA products. The encapsulation of the zinc phosphide has been a significant development with the benefit of disguising the adverse taste and smell characteristics normally associated with the zinc phosphide active that can be a deterrent to the target pest. In addition there has been considerable research to minimise the risk to non-target species from paste bait that incorporates a bird repellent. This information has been utilised in the development of the MZP Paste which has low palatability to non-target bird species as some species are susceptible to the toxic effects of zinc phosphide. It is also proposed that the MZP Paste bait would also be restricted to ground-based control operations and use in bait stations as this would also reduce the risk to non-target species such as birds.

The possum remains the major economic and conservation pest species in New Zealand and there are many benefits derived from reducing the possum population. Extensive possum control over the past years has been the main driver for a substantial reduction in bovine Tb levels in New Zealand's cattle and deer herds. However this has been heavily dependent on 1080 use so an alternative less hazardous toxicant for ground control pest operations would be beneficial particularly if the ecotoxicity hazard was lower and the concern about secondary poisoning risks, particularly to dogs, could be alleviated. The MZP Paste would be a new tool in the on-going programme of sustained pest control necessary to protect key endangered species on the New Zealand mainland.