

# INFORMATION SHEET

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## New Organisms under the HSNO Act

### What is an “organism”?

Under the Hazardous Substances and New Organisms Act 1996, (HSNO) the word “organism” includes all living organisms, from viruses and micro-organisms to all plants and animals. It does not include human beings, but does include human cells growing in tissue cultures.

### What is a “new organism”?

Under the HSNO Act, approval must be given by ERMA New Zealand before a new organism can be imported, developed, field-tested or released.

A new organism is:

- a member of a species that was not present in New Zealand on 29 July 1998, the commencement date of the HSNO Act for new organisms
- an organism which is in containment, as defined under the Act
- an organism for which a conditional release approval has been given.
- a qualifying organism (a new organism that is or is contained in a medicine or veterinary medicine) that is approved for release with controls.
- a genetically modified organism, not previously approved for release (without controls)
- an organism which has been eradicated from New Zealand
- a species of organism which has not been approved for release in accordance with the Act
- an organism belonging to a species (or other defined group of organisms) listed as a “risk species”, where the organism was not in New Zealand at the time the group was added to the list of risk species, and has not had a subsequent approval.

## **Taxonomic level**

An amendment to HSNO Act in 2003 allows ERMA New Zealand to consider applications for approval to import or release new organisms at the most appropriate taxonomic level for risk assessment.

For example, in considering applications for approvals for bacteria or other micro-organisms, the Authority may consider the taxonomic level most appropriate for risk assessment to be at the level of sub-species or strains. An example is the species *E. coli*, which has many strains. Strain K12 is not pathogenic to humans while strain O157 is.

On the other hand some plants may be assessed at the genus level. For example, the nature of orchid breeding and nomenclature means that it is usually difficult and sometimes virtually impossible to identify the full range of species from which orchid cultivars have been bred. This provision would help decisions on, for example, the status of hybrids.

## **Conditional release**

Conditional release approval may be given to import for release or to release from containment a new organism with controls. For example release, of only males of an animal species, such as a camel, might be approved so that no breeding population could be formed, or approval might be given for release of a parasite for biological control in only a particular area, such as an off-shore island.

Organisms approved for “conditional release” remain new organisms under the HSNO Act unless and until their unconditional release is approved.

## **Containment**

Approval may be given to import a new organism into containment. This can range from a virus held in a medical laboratory to an African elephant held at a zoo. Organisms held in containment remain “new organisms” until approval is granted for their release. Consequently, the fact that an organism is present in New Zealand in containment does not imply that other members of the same species can be imported without approval. Bengal tigers, as an extreme example, cannot be imported and released in New Zealand even though there may be Bengal tigers in containment in the Auckland Zoo.

## **“Not present in New Zealand”**

There are doubtless many organisms, particularly small invertebrates and micro-organisms, which are in New Zealand but have never been described. Other organisms, such as moose, have been present in New Zealand, but there is some doubt whether they are still here. ERMA New Zealand works closely with research organisations that have compiled extensive lists of organisms present in New Zealand. These are the first points of reference. Anyone who wants to import any of these doubtful residents without a HSNO approval will have to provide credible evidence that the permanently exists in New Zealand, ie, it is not ‘new’.

## **Risk species**

Under the HSNO Act, ERMA New Zealand is able to define a list of risk species that should not be released in New Zealand without being assessed by ERMA. The word “species” as used in the Act for the consideration of “risk species” does not necessarily mean a taxonomic species. Subspecies, infrasubspecies, varieties, strains or cultivars of species already present in New Zealand can be defined as “risk species”. For example, although common dog breeds already in New Zealand are not new organisms, aggressive breeds of

dogs not present in New Zealand could be included on a list of risk species. Similarly, the plant known as old man's beard [*Clematis vitalba*] is not a new organism; but a variety, cultivar or ecotype of *Clematis vitalba* that is not already in New Zealand could be deemed to be a risk species. Application for approval must be made prior to importation of organisms prescribed as risk species.

## Regeneration

Regenerative tissue is biological material of an organism that cannot, without human intervention, be used to reproduce an organism. Regeneration of a new organism (including a genetically modified organisms) from regenerative tissue requires approval under the HSNO Act as a development. Vegetative propagation of plant material and natural regeneration of species are not considered by ERMA to be developments.

## Genetically modified organisms

All genetically modified organisms, and the descendants of genetically modified organisms, are new organisms, unless approved for release.

For further information, see the ERMA New Zealand Information Sheet *Genetic modification: an overview*.

## Species eradicated from New Zealand

New Zealand's many pest species cannot be classified as new organisms because they were well established here before the HSNO Act came into force. If, however, possums, rabbits, rats or gorse could be eradicated from the country, they would then become new organisms. Any future attempts at their re-introduction would then require an approval under the HSNO Act.

## Hybrids

The questions raised by hybrids, particularly those between different species, are covered in a separate ERMA New Zealand Information Sheet.

## ERMA New Zealand's approach

When considering an application to import, develop, field test or release a new organism, ERMA New Zealand's first obligation is to fulfil the purpose of the HSNO Act – to protect the environment and the health and safety of people and communities. The Authority must take into account:

- the sustainability of all native and valued introduced flora and fauna
- the intrinsic value of ecosystems
- public health
- the relationship of Maori culture and traditions with their ancestral land, water, sites, waahi tapu, valued flora and fauna and other taonga
- the economic and related benefits to be derived the use of the organism
- New Zealand's international obligations

The HSNO Act requires that anyone making decisions under the Act must take into account the need for caution if there is scientific or technical uncertainty about the adverse effects of an organism. Particular caution is needed when deciding on the release of a new organism into the environment. Once released, some organisms may be difficult or impossible to recall.

When, however, an application is made to develop an organism in containment, or to import it into containment, the issues to be decided are likely to be defining containment conditions to prevent escape and effectively managing the risks posed by the organism should it escape.

For more information on ERMA New Zealand's approach, read the *Annotated Methodology for the consideration of applications for hazardous substances and new organisms under the HSNO Act 1996*, available from ERMA New Zealand.

## **ERMA New Zealand Information Sheets**

ERMA New Zealand publishes information sheets on a range of topics to provide background information on current issue or proposals being dealt with by the Authority.

All publications may be viewed and downloaded from our website at [www.ermanz.govt.nz](http://www.ermanz.govt.nz) or may be requested by contacting ERMA New Zealand, P O Box 131, Wellington. Ph +64 4 916 2426 Fax +64 4 914 0433 Email [info@ermanz.govt.nz](mailto:info@ermanz.govt.nz)