



**National
Registration
Authority**

for Agricultural and
Veterinary Chemicals

**REGISTRATION OF
POST HARVEST TREATMENTS
A GUIDE TO THE PRODUCT TYPES WHICH
MUST BE REGISTERED BY THE NRA**

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INTRODUCTION

The sale or supply of chemicals for use on harvested produce is controlled by two separate legislative codes - the Agvet Codes, regulated by the National Registration Authority for Agricultural and Veterinary Chemicals (NRA) and the Food Standards Code, regulated by the Australia New Zealand Food Authority (ANZFA). The NRA regulates the chemicals sold or supplied for the purpose of controlling a pest or disease on the harvested produce whereas ANZFA regulates the sale of treated food. The use of agricultural and veterinary chemicals is controlled by control-of-use legislation at the State and Territory level.

In the past there has been some confusion as to whether a chemical product requires registration with the NRA and/or approval by ANZFA. This document is intended to provide information and guidance as to what products do or do not require registration with the NRA by identifying whether a product is considered an agricultural chemical product.

REGISTRATION OF POST HARVEST TREATMENTS

1. Agricultural chemical product

An agricultural chemical product is any substance or mixture of substances that is represented, imported, manufactured, supplied or used as a means of directly or indirectly:

- Destroying, stupefying, repelling, inhibiting the feeding of, or preventing infestation by or attacks of, any pest in relation to a plant, place or thing; or
- Destroying a plant; or
- Modifying the physiology of a plant or pest so as to alter its natural development, productivity, quality or reproductive capacity; or
- Attracting a pest for the purpose of destroying it.

2. Pest

In relation to the above description of an agricultural chemical, the definition of a pest includes any biological entity that injuriously affects the physical condition, worth or utility of a plant (which is defined to include plants products such as fresh produce), animal or thing (which is defined to include animal products such as red meat). In practical terms 'pest' means any insect or spoilage causing pathogens that may be on or contained within the produce, or develop on or within the produce during storage. This includes insects, fungi and microbial pathogens. Therefore, products used to control 'pests' that attack harvested produce, are considered to be agricultural chemicals and require registration under the Agvet Codes before they can be lawfully supplied, distributed or sold anywhere in Australia.

3. Post harvest treatment

The term "post harvest treatment" refers to the application of agricultural chemical products, as defined above, to harvested produce for the purpose of destroying any 'pest' that may adhere to produce surfaces and cause damage to that commodity. Post

harvest treatments are used for the purpose of reducing or preventing deterioration of produce during the period between harvest and consumption. This document discusses the post harvest treatment of produce to control fungal and microbial pathogens. Clearly the same principles apply to post harvest treatments used to control insects but these are already widely known to be agricultural chemicals requiring registration and will be given no further consideration in this document.

To determine whether a product is a post harvest treatment requiring registration by the NRA, the following factors are taken into consideration:

- Intended uses.
- How the product is represented eg. label claims, advertising statements; and
- Product composition, specifically the presence of constituents with known or implied antimicrobial and/or biocidal effects

It is important to note where any constituent is declared in the product formulation, whether or not it is shown on the label, and it is known to have a biocidal or antimicrobial effect, the product will fall under the definition of an agricultural chemical product if it is intended to be used for such a purpose. A product will not require registration if it is specifically exempted from registration, or not defined as an agricultural chemical product by the Agvet Codes, even if a constituent is recognised as a biocide. For example, hydrogen peroxide has a known sanitising effect therefore, products containing hydrogen peroxide will generally require registration with the NRA. However when a hydrogen peroxide product is sold and used solely as a hair bleaching treatment it is not an agricultural chemical and therefore does not require registration with the NRA.

If the product composition, representations, claims or intended use fall within the definition of an agricultural chemical product, then registration with the NRA is required. An example specific to post harvest treatments follows: a product containing a recognised biocide such as calcium hypochlorite sold for the purpose of being used in packing shed with the label claim that it controls spoilage causing organisms on foodⁱ would be an agricultural chemical product and would require registration. However, a calcium hypochlorite product used only as a food processing aid or additive (as defined in the Foods Standards Code, Standard 1.3.3) to control organisms that do not contribute to the deterioration of the harvested produce but may be present on or in the produceⁱⁱ would not require registration with the NRA.

In order to assist in understanding NRA requirements, some examples of products that DO and DO NOT require registration with the NRA are listed below.

POST HARVEST TREATMENTS THAT DO REQUIRE REGISTRATION WITH THE NRA

Products claiming :

- Reduction of scald on apples and pears
- Control of moulds on citrus
- Control of fruit fly on fruit
- Control of post harvest storage decays

Sanitisation of fruits and vegetables, for use food and beverage manufacturing industries (depending on target organisms)

And

Bactericides and/or fungicides used in washing and packing facilities

Seed treatments and insecticide treatments such as stored grain protectants and fumigants

Sulphur dioxide pads (metabisulphite)

Carbon dioxide used as an insecticide

Water disinfectants (for control of plant pathogens)

(This list provides some examples but is not inclusive of all product claims which would require registration).

PRODUCTS THAT DO NOT REQUIRE REGISTRATION WITH THE NRA

Some chemicals are used **only** as food processing aids and/or food additives. They are not used to destroy a pest on relation to harvested produce, or to modify the physiology of the harvested produce and therefore do not require registration with the NRA.

For example calcium hypochlorite, hydrogen peroxide, peracetic acid, sodium persulphate, diammonium chloride and chlorine dioxide are all commonly used in food processing facilities such as abattoirs or canning factories as surface and/or processing environment sanitisers (ie bleaching, washing or peeling agents). If products containing these chemicals are for use only as sanitisers in these food processing situations (this includes products applied to disinfect water used in food processing, surfaces of equipment used in food processing, and the surface of the food which is processed) AND only claim to control human pathogens, (as distinct from food spoilage pathogens), then the products do not require registration with the NRA. Some examples include:

Disinfectants for surfaces and equipment used in the food processing industry

Food additives

Detergents

Humidity modifiers

Substances used in Controlled Atmosphere stores (ie carbon dioxide)

Waxing/glossing treatments (provided they contain no registerable biocides)

Physical impediments (i.e. wrapping paper)

It is important to note that often products require registration with the NRA and approval by ANZFA especially if the product claims to control both plant and human pathogens. In this instance please contact the NRA on Ph 02 6271 6384, Fax 02 6272 3218 AND contact ANZFA on Ph 02 6271 2222, Fax 02 62712278 for advice.

CONCLUSION

The examples listed above should be used as a guide only. The appropriate action for product manufacturers to follow should be to seek advice from the NRA and/or ANZFA prior to marketing any Post Harvest Treatments or Food Processing Aids. When seeking advice, product manufacturers should forward details of the products composition to the NRA, along with a copy of the proposed product label and marketing literature.

ⁱ The following are spoilage causing, decay causing or rot causing organisms. If the product is used to control these organisms or any other type of organism that attacks food commodities then the product is considered a Post Harvest Treatment and does require registration by the NRA:

Geotrichum candidum (Geotrichum soft rot)

Alternaria spp. (Alternaria rot)

Rhizopus spp. (Rhizopus rot)

Botrytis cinerea (Botrytis rot)

Fusarium spp. (Fusarium rot)

Phoma spp. (Phoma rot)

Erwinia carotovora (Bacterial soft rots)

Sclerotinia sclerotiorum (Sclerotinia rot)

Aspergillus niger (Black mould)

ⁱⁱ The following organisms do not contribute to the deterioration of harvested produce (i.e they are not pest in relation to harvested produce nor do they modify its physiology), but are often found on or in harvested produce:

Pseudomonas aeruginosa

Proteus vulgaris

Escherichia coli

Staphylococcus aureus

Listeria monocytogenes

Salmonella spp.