



Maximum residue limits (MRLs) for pesticides registered¹ for use on Australian almonds.

This information bulletin provides a list of maximum residue limits (MRLs) for pesticides registered¹ for use in Australia on almonds. Listed in the table are MRLs for Australia, as established by Food Standards Australia New Zealand and a number of countries to which Australian almonds are exported as at March 2009. **The main purpose of this bulletin is to inform growers, packers and marketers of the export requirements for pesticide residues. The critical element of this information is that Australian MRLs do not apply to other countries, and even though a chemical may be registered in Australia, this may not be the case in another country.** For Australia if an MRL is ‘not set’, a zero tolerance applies (refer to end of table for full details on other countries).

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Active ingredient ¹	Maximum residue limit (mg/kg) for almonds.								
	Australia ²	Codex ³	European Union ⁴	Gulf Cooperation Council (GCC) ⁵	Hong Kong ⁶	India ⁷	Japan ⁸	Malaysia ⁹	USA ²
ORGANOPHOSPHATE INSECTICIDES									
chlorpyrifos		0.05	0.05				0.20		0.20
diazinon	0.10	0.05	0.05				0.05 (P)		3.0 (hulls)
dimethoate			0.05				1.0 (P)		
fenthion			0.01						
malathion (maldison)	8.00		0.02	8.0 (in shell)			8.00		8.00
methidathion		0.05	0.05				0.05 (P)		0.05
parathion-methyl			0.02				0.10		0.10
trichlorfon	0.10		0.50				0.50		

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ACARICIDES									
clofentezine	0.50		0.05				0.50		0.50
propargite		0.10	0.10				0.1 (P)		0.10
pyridaben			0.50						
tetradifon			0.02				1.0 (P)		
CARBAMATES									
cabaryl	1.00	1.00	0.05				1.00 (P)		0.10
methiocarb			0.20						
pirimicarb			1.00				0.50		
ORGANOCHLORINE INSECTICIDES									
aldrin and dieldrin			0.01				0.06 (P)		
chlordane	0.02 (E)	0.02	0.01				0.02 (P)		
DDT			0.05				0.05 (P)		
dicofol	5.00		0.05				3.00 (P)		0.30
endosulfan	0.05		0.10				0.50 (P)		
endrin			0.01				0.01 (P)		
HCB			0.01				0.01 (P)		
HCH (BHC)			0.01						
heptachlor			0.01				10.00 (P)		
lindane (gamma HCH)			0.01				0.01 (P)		
oxychlordane									
OTHER INSECTICIDES									
piperonyl butoxide	8.00						8.00 (P)		8.00
pymetrozine							0.02 (P)		
pyrethrins	1.00	0.50	1.00	1.00			1.00		1.00
spinosad	0.01	0.01	1.00				0.02		0.02
FUNGICIDES									
azoxystrobin	0.01		0.10				0.02		0.02
captan	0.30	0.30	0.30				0.03 (P)		0.25
carbendazim		0.10	0.10						
chlorothalonil	0.10		0.01				0.05 (P)		0.05
cyproconazole			0.05				0.05		

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FUNGICIDES (cont)									
dithiocarbamates (Mancozeb, Metiram, Thiram, Zineb and Ziram)	3.00	0.10	0.05				0.1 (P)		
iprodione		0.20	0.02				10.00		0.30
propiconazole			0.05						0.10
HERBICIDES									
bromoxynil			0.05						
carfentrazone-ethyl			0.01				0.08 (P)		0.10
diflufenican			0.05				0.002 (P)		
diquat	0.05		0.05				0.03 (P)		0.02
glufosinate	0.10	0.10	0.10				0.10		0.10
glyphosate	0.20		0.10				1.00		
haloxyfop	0.05		0.05				0.05 (P)		
isoxaben	0.01		0.05						
napropamide			0.05				0.1 (P)		0.10
norflurazon							0.2 (P)		0.10
oryzalin			0.01				0.08 (P)		0.05
oxyfluorfen			0.05				0.05 (P)		0.05
paraquat	0.05	0.05	0.02				0.05 (P)		0.05
pendimethalin	0.05		0.05				0.05		0.10
simazine	0.10		0.10				0.2 (P)		0.25
trifluralin			0.10				0.05		0.05
FUMIGANTS									
phosphine (hydrogen phosphide)	0.01	0.01	0.05				0.0		0.1

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METALS									
Cadmium (Cd)									
Copper(Cu)			30.0 (copper compounds)				NR		
Lead (Pb)									
Mercury (Hg)									

Notes to Table:

1 The registration status of the chemicals listed may vary for each commodity and in each State. Prior to using any chemical, consult the label and/or regulatory authority in your State. The persistent organochlorines (DDT, dieldrin and lindane) are not registered for use.

2 **AUSTRALIA** and **US**: in the absence of a set MRL, zero tolerance applies. For metals, for example, Australia adopts the principle that regardless of whether or not a Maximum Limit exists, the levels of contaminants and natural toxicants in all foods should be kept As Low As Reasonably Achievable (the ALARA principle).

3 Many countries default to maximum residue limits established by CODEX including ALGIERS, ANGOLA, BAHAMAS, BANGLADESH, BARBADOS, COLOMBIA, DOMINICAN REPUBLIC, HONDURAS, HONG KONG, JORDAN, LEBANON, NICARAGUA, PAKISTAN, PANAMA, PERU, PHILIPPINES, THAILAND, TRINIDAD & TOBAGO, TUNISIA AND VENEZUELA.

4 **European** MRLs were harmonised on 1 September 2008 and include countries of **France, Germany, Spain and UK**. If no MRL listed then a general default value of 0.01 mg/kg applies.

5 In the absence of a **GCC** standard, GCC recognises the Codex Alimentarius standard that governs pesticide and other contaminant residue levels.

6 **Hong Kong** currently adopts the Maximum Residue Limits (MRLs) and Extraneous Maximum Residues Limits (EMRLs) for pesticides recommended by Codex Alimentarius Commission of the WHO/FAO (World Health Organization/Food and Agriculture Organization of the United Nations). Details and latest amendments can be browsed or downloaded from the homepage of Codex Alimentarius Commission (see last page of this document for links)

7 The CODEX MRLs may be accepted for imported foodstuffs only for those pesticides not included in **India's** positive list of pesticides.

8 **Japan** - Where an MRL has not been set, will default to 0.01 mg/kg.

9 **Malaysia** - Where the pesticide is not specified in their standards will defer to Codex. If no Codex MRL then should not contain more than 0.01 mg/kg.

- Almonds also fall under the category of Tree nuts.
- **blank cell = 'not set'** denotes that no MRL has been established, refer to details above for each country's default value.
- **NR (not required) - The substances having no potential to cause damage to human health that the provision requires the Minister to specify.**
- **'P'** Provisional - where MRLs have been newly established and are still being reviewed.
- **'E'** Extraneous MRL (Australia) means the maximum permitted limit of a pesticide residue, arising from environmental sources other than the use of a pesticide directly or indirectly on the food, expressed in milligrams of the chemical per kilogram of the food (mg/kg).

This table has been compiled with reference to the information obtained from the following Food/Agricultural Authorities or publications:

Australia - FSANZ *Food Standards Code 'Standard 1.4.2'* Amendment 106, dated 12 February 2009 available on the FSANZ website

<http://www.foodstandards.gov.au/thecode/foodstandardscode.cfm>

The MRLs set by FSANZ are based on those established by APVMA in the MRL Standard [<http://www.apvma.gov.au/>], and may vary slightly due to delays in the legislative process.

Codex - Codex Alimentarius Commission. *FAO/WHO Food Stds Codex Alimentarius Pesticide Residues in Food - MRLs & Extraneous MRLs - (last updated 09 April 2008)*

http://www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp

European Union - European Directives 76/895/EEC, 86/362/EEC, 86/363/EEC, 90/642/EEC and amending legislation available from the Europa website [<http://europa.eu.int/>], downloaded August 2007. Plant Protection - Pesticide Residues website -

http://ec.europa.eu/food/plant/protection/pesticides/index_en.htm

GCC - Maximum Limits of Pesticide Residue in Agricultural and Food Products Part 1 - UAE's GCC Standardization Organisation (GSO) 382/1994 and Maximum Limits of Pesticide Residue in Agricultural and Food Products Part 2 - UAEs GSO 383/1994

India - Ministry of Health and Family Welfare -The Prevention of Food Adulteration Act & Rules (as of 1/10/2004); Part XIV - Insectides and Pesticides - 65 Restriction on the use of insectides.

<http://www.mohfw.nic.in/pfa%20acts%20and%20rules.pdf>

<http://www.mohfw.nic.in/>

Japan - *Specifications and Standards for Foods, Food additives, etc. Under the Food Sanitation Law (Abstracts)* from

<http://www.mhlw.go.jp/english/topics/foodsafety/positivelist060228/index.html>

Malaysia - *Laws of Malaysia. Food (Amendment) Regulations 2004* available on the Ministry of Health Food Safety and Quality Division website [<http://www.moh.gov.my/fqc/index.htm>] downloaded March 2009. Link to the Sixteenth Schedule (Regulation 41) Pesticide Residues:

http://fsis.moh.gov.my/fqc/ReferenceBooks/FRschedule/sc16_reg41/Schedule16_reg41.htm

US - Electronic Code of Federal Regulations current March 2009 Title 40--Protection of Environment CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY (CONT) PART 180--

http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=2bfde6952266d018c52f77953f6287b9&tpl=/ecfrbrowse/Title40/40cfr180_main_02.tpl
