



**Information Bulletin**

**Maximum residue limits (MRLs) for pesticides registered<sup>1</sup> for use on Australian pome fruit (apples and pears).**

This information bulletin provides a list of maximum residue limits (MRLs) for pesticides registered<sup>1</sup> for use in Australian on apples and pears. Listed in the table are MRLs for Australia, as established by Food Standards Australia New Zealand and a number of countries to which Australian apples and pears are exported. 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. In Australia if an MRL is ‘not set’, generally a zero tolerance applies (refer to end of table for full details).

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Active ingredient <sup>1</sup>	Maximum residue limit (mg/kg) for apples and pears									
	Australia <sup>2</sup>	Canada <sup>3</sup>	Codex <sup>4</sup>	European Union <sup>5</sup>	Indonesia <sup>6</sup>	Japan <sup>7</sup>	Malaysia <sup>8</sup>	Singapore <sup>9</sup>	Taiwan <sup>10</sup>	United States <sup>2</sup>
<b>ORGANOPHOSPHATE INSECTICIDES</b>										
azinphos-methyl	2.0	2.0	2.0	0.05	1.0	2.0 <sup>11</sup>	not set	1.0	2.0	not set
chlorpyrifos	T0.5	0.01 (A)	1.0	0.50	1.0 (A)	1.0 (A), 0.5 (P)	not set	1.0 (A), 0.5 (P)	1.0	0.01 (A), 0.05 (P)
diazinon	0.5	0.75	0.3	0.01	0.5	0.1	not set	0.5	1.0	0.5
dimethoate	5.0	2.0	1.0 (P)	0.02	1.0	1.0	not set	2.0	not set	2.0 (P)
fenitrothion	0.5 (A), 0.1 (P)	not set	0.5 (A)	0.01	0.5	0.2	not set	2.0 (A), 0.5 (P)	not set	not set
fenthion	2.0	not set	not set	0.01	2.0	2.0	not set	2.0	not set	not set
malathion	2.0 (A), 0.5 (P)	2.00	0.5 (A)	0.50	2.0 (A), 0.5 (P)	0.5	not set	2.0 (A)	not set	8.0
methidathion	0.2	0.5	0.5 (A), 1 (P)	0.05	0.5	0.5 (A), 1.0 (P) <sup>11</sup>	not set	0.2	not set	0.05
omethoate	2.0	not set	not set	not set	not set	1.0 <sup>11</sup>	not set	see dimethoate	0.2	see dimethoate
parathion	not set	1.0	not set	0.05	not set	0.3	not set	not set	not set	not set
parathion-methyl	T0.5	not set	0.2 (A)	0.02	0.2	0.2	not set	not set	not set	not set

prothiofos	0.05	not set	not set	not set	not set	0.3 (A), 0.1 (P)	not set	not set	not set	not set
<b>Active ingredient<sup>1</sup></b>	<b>Maximum residue limit (mg/kg) for apples and pears</b>									
	<b>Australia<sup>2</sup></b>	<b>Canada<sup>3</sup></b>	<b>Codex<sup>4</sup></b>	<b>European Union<sup>5</sup></b>	<b>Indonesia<sup>6</sup></b>	<b>Japan<sup>7</sup></b>	<b>Malaysia<sup>8</sup></b>	<b>Singapore<sup>9</sup></b>	<b>Taiwan<sup>10</sup></b>	<b>United States<sup>2</sup></b>
<b>ORGANOPHOSPHATE INSECTICIDES (cont)</b>										
trichlorfon	0.1	not set	not set	1.00	2.0 (A)	2.0 (A), 0.5 (P)	not set	0.1	not set	not set
<b>ORGANOCHLORINE INSECTICIDES</b>										
aldrin and dieldrin	E 0.05	not set	E0.05	0.01	0.05	ND	not set	0.05	not set	0.03
DDT	E 1.0	not set	not set	0.05	1.0	0.2	not set	1.0	not set	0.1
Dicofol	5.0	3.0	not set	0.02	5.0	3.0	not set	5.0	not set	not set
Endosulfan	1.0	2.0	not set	0.05 (A); 0.3 (P)	2.0	1.0	2.0	2.0	0.5 (P)	1.0 (A); 2.0 (P)
Heptachlor	not set	not set	not set	0.01	not set	0.01 <sup>11</sup>	not set	not set	not set	0.01
Lindane (gamma HCH)	E 2.0	3.0	not set	0.01	0.5	2.0 (A), 1.0 (P)	not set	0.5 (A)	not set	not set
<b>SYNTHETIC PYRETHROID INSECTICIDES</b>										
Bifenthrin	0.05 (A), 0.5 (P)	not set	0.5 (P)	0.30	not set	1.0 (A), 0.5(P)	not set	not set	1.0	0.5 (P)
Cypermethrin	1.0	1.0(A); 0.5 (P)	2.0	1.00	2.0	2.0	2.0	2.0	2.0	not set
Fluvalinate	0.1 (A)	not set	not set	not set	not set	0.5 (A), 2 (P)	not set	not set	not set	not set
Pyrethrin	1.0	1.0	not set	1.00	not set	1.0	not required	1.0	not set	1.0
<b>OTHER INSECTICIDES / MITICIDES</b>										
Abamectin	0.01	0.02	0.02	0.01	not set	0.02 <sup>11</sup>	not set	not set	0.02	0.02
Bifenazate	2.0	0.6 (A)	0.7	0.01	not set	2.0	not set	not set	0.75	0.75
Carbaryl	5.0	5.00	T5.0 (P)	0.05	5.0	1.0 (A) <sup>11</sup> , 5.0 (P) <sup>11</sup>	not set	5.0	1.0	12
Chlorantraniliprole	0.3	0.30	0.4	0.50	not set	1.0 (A); 0.5 (P)	not set	not set	0.5 (A)	1.2
Chlorfenapyr	0.5	not set	not set	0.05	not set	2.0 (A); 1.0(P)	not set	not set	0.5 (Wax apples and pears)	not set
Clofentezine	0.1	0.50	0.5	0.50	0.5	1.0 (A), 0.5 (P)	not set	not set	not set	0.5
Fenbutatin oxide	3.0	3.00	5.0	2.00	5.0	5.0	not set	5.0	2.0	not set
Fenoxycarb	2.0	not set	not set	1.00	not set	2.0 <sup>11</sup>	not set	not set	not set	not set
Fenpyroximate	0.3	not set	0.3 (A)	0.20	not set	0.5 (A), 1.0 (P)	not set	not set	0.4	0.4
Hexythiazox	1.0	not set	0.5	1.00	not set	1.0	not set	not set	0.5 (A), 1.0 (P)	0.3
Imidacloprid	0.3 (A)	0.5 (A); 0.6 (P)	0.5 (A), 1 (P)	0.50	not set	0.5 (A), 1.0 (P) <sup>11</sup>	not set	not set	0.5 (P)	0.5 (A), 0.6 (P)
Indoxacarb	2.0	not set	0.5 (A); 0.2 (P)	0.5 (A); 0.3 (P)	not set	1.0 (A) <sup>11</sup> , 0.9(P) <sup>11</sup>	not set	not set	not set	1 (A), 0.2 (P)
Methomyl	1.0 (A), 3.0 (P)	0.5 (A)	0.3 (P)	0.20	2.0 (A)	3.0 <sup>11</sup>	not set	5.0 (A)	0.5	1.0 (A)
Piperonyl butoxide	8.0	8.00	not set	not set	8.0	8.0 <sup>11</sup>	not set	8.0	not set	8.0
Pirimicarb	0.5	0.5 (A)	1.0	2.00	not set	1.0	not set	1.0	not set	not set

Propargite	3.0	not set	3.0 (A)	3.00	5.0	3.0 (A) <sup>11</sup> , 5.0 (P) <sub>11</sub>	not set	3.0	3.0 (A), 4.0 (P)	not set
Pyridaben	0.5	0.5(A); 0.75(P)	not set	0.50	not set	2.0	not set	not set	0.5	0.5 (A), 0.75 (P)
<b>Active ingredient<sup>1</sup></b>	<b>Maximum residue limit (mg/kg) for apples and pears</b>									
	<b>Australia<sup>2</sup></b>	<b>Canada<sup>3</sup></b>	<b>Codex<sup>4</sup></b>	<b>European Union<sup>5</sup></b>	<b>Indonesia<sup>6</sup></b>	<b>Japan<sup>7</sup></b>	<b>Malaysia<sup>8</sup></b>	<b>Singapore<sup>9</sup></b>	<b>Taiwan<sup>10</sup></b>	<b>United States<sup>2</sup></b>
<b>OTHER INSECTICIDES / MITICIDES - continued</b>										
Spinosad	0.5	0.1 (A)	0.1 (A)	1.00	not set	0.5 (A); 0.5 (P) <sup>11</sup>	not set	not set	not set	0.2
Tebufenozide	1.0	1.00	1.0	0.20	not set	1.0 (A), 1.0 (P) <sup>11</sup>	not set	not set	0.5	1 (A), 1.5 (P)
Tebufenpyrad	1.0	not set	not set	0.02	not set	0.5	not set	not set	not set	not set
Tetradifon	5.0	5.00	not set	not set	not set	1.0 <sup>11</sup>	not set	not set	not set	not set
Thiacloprid	1.0	0.30	0.7	0.30	not set	2.0 <sup>11</sup>	not set	not set	0.3 (A), 1.0 (P)	0.3
<b>PLANT GROWTH REGULATORS</b>										
Aminoethoxyvinylglycine	0.1 (A)	not set	not set	not set	not set	0.09(A), 0.08(P)	not set	not set	0.08	0.08
Benzyladenine	0.2 (A), T0.2 (P)	not set	not set	not set	not set	0.1 <sup>11</sup>	not set	not set	not set	not required (A)
Diphenylamine	10.0 (A), 7.0 (P)	5.0 (A)	10.0 (A), 5.0 (P)	5.0 (A), 10.0 (P)	5.0 (A)	10.0 (A) <sup>11</sup> , 5.0(P) <sup>11</sup>	not set	5.0	not set	10.0 (A); 5.0 (P)
Ethephon	1.0 (A)	3.0 (A)	5.0 (A)	0.05	5.0 (A)	5.0 (A), 3.0(P)	not set	not set	2.0	5.0 (A)
Paclobutrazol	1.0	not set	not set	0.50	0.5 (A)	0.5 (A), 1.0 (P)	not set	not set	not set	not set
<b>FUNGICIDES</b>										
Benomyl	see carbendazim	5.00	see carbendazim	see Carbendazim	5.0 (A)	3.0	not set	not set	not set	7.0 (expired 1/1/08)
Bupirimate	1.0 (A)	not set	not set	0.20	not set	0.8 (A), 0.5 (P)	not set	not set	2.0	not set
Captan	10.0	5.00	25.0 T	3.00	25.0	5.0 (A), 25.0 (P)	not set	25.0	not set	25.0
Carbendazim	not set	5.00	3.0	0.20	not set	3.0 <sup>11</sup>	not set	2.0	3.0	not set
Cyprodinil	0.05	0.10	0.05 (A)*, 1 (P)	1.00	not set	5.0	not set	not set	1.0	4.6 (A), 0.1 (P)
Difenoconazole	0.3	1.00	0.5	0.20	not set	1.0	not set	not set	0.5	1.0
Dithianon	2.0	not set	5.0	not set	not set	5.0 <sup>11</sup>	not set	not set	not set	5
Dithiocarbamates (Mancozeb, Metiram, Thiram, Zineb and Ziram)	3.0	7.00	2.0 (A), 5.0 (P)	5.00	3.0	5.0 <sup>11</sup>	not set	3.0; ziram 7.0	2.5	Ferbam 4.0; Mancozeb 7.0 (A), 10.0 (P); Maneb 2.0 (A); Metiram not set; Thiram 7.0 (A); Ziram 7.0
Dodine	5.0	5.00	5.0	5.00	5.0	5.0 <sup>11</sup>	not set	5.0	2.0	5.0
Fenarimol	0.2	not set	0.3	0.30	not set	1.0	not set	not set	0.5	0.1
Fluazinam	0.01 <sup>12</sup>	not set	not set	0.05	not set	0.5	not set	not set	0.5	2.0
Fluquinconazole	0.3	not set	not set	0.1 (A); 0.2 (P)	not set	0.05 <sup>11</sup>	not set	not set	not set	not set

Flusilazole	0.2	0.2 (A)	0.2	0.02	not set	0.2	not set	not set	0.2	not set
Fosetyl	1.0 (A)	1.0(A)	not set	75.00	not set	75.0 (A), 50.0 (P)	not set	not set	not set	not set
Hexaconazole	0.1	not set	not set	0.10	not set	0.5	not set	not set	1.0	not set
Imazalil	5.0	not set	5.0	2.00	5.0	5.0	not set	not set	5.0 (P)	not set
Iprodione	3.0	not set	5.0	5.00	10.0	10.0	not set	10.0	5.0	not set
<b>Active ingredient<sup>1</sup></b>	<b>Maximum residue limit (mg/kg) for apples and pears</b>									
	<b>Australia<sup>2</sup></b>	<b>Canada<sup>3</sup></b>	<b>Codex<sup>4</sup></b>	<b>European Union<sup>5</sup></b>	<b>Indonesia<sup>6</sup></b>	<b>Japan<sup>7</sup></b>	<b>Malaysia<sup>8</sup></b>	<b>Singapore<sup>9</sup></b>	<b>Taiwan<sup>10</sup></b>	<b>United States<sup>2</sup></b>
<b>FUNGICIDES - (continued)</b>										
Kresoxim-methyl	0.1	0.50	0.2	0.20	not set	5.0	not set	not set	1.0	0.5
Myclobutanil	0.5	0.5 (A)	0.5	0.50	not set	5.0 (A), 1.0 (P)	not set	not set	0.5	0.5 (A)
Oxythioquinox	0.5	not set	not set	not set	not set	not set	not set	not set	not set	not set
Penconazole	0.1	not set	0.2	0.20	not set	0.2	not set	not set	0.2	not set
Pyrimethanil	0.05	3.00	7.0	5.00	not set	5.0 (A), 1.0 (P)	not set	not set	7 (A), 2.0 (P)	14.0
Thiabendazole	10.0	10.00	3.0	5.00	10.0	3.0 <sup>11</sup>	not set	10.0	5.0	5.0
Triadimefon	1.0 (A)	not set	3.0	0.2 (A); 0.1 (P)	not set	0.5	not set	0.5	0.5	1.0
Trifloxystrobin	0.3	0.50	0.7 <sup>13</sup>	0.50	not set	3.0 (A) <sup>11</sup> , 0.7 (P) <sup>11</sup>	not set	not set	0.7 (Wax Apple); 0.5 (P)	0.5
Triforine	1.0	not set	2.0 (A)	2.00	2.0 (A)	2.0 <sup>11</sup>	not set	2.0 (A)	1.0	not set
<b>HERBICIDES - Ureas</b>										
Diuron	0.5	not set	not set	0.05	not set	0.05 <sup>11</sup>	not set	not set	not set	0.1 (A); 1.0 (P)
Linuron	not set	not set	not set	0.05	not set	0.2 <sup>11</sup>	not set	not set	not set	not set

## 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. This table does not include herbicides, pheromones and other solvents which are registered for use as they are considered to be at low risk of causing unacceptable residues in apples and pears.

**2** AUSTRALIA and US: in the absence of a set MRL, zero tolerance applies.

**3** CANADA The General MRL applies to foods that contain residues of agricultural chemicals (including pesticides) unless a specific MRL has been established. Regulation B.15.002(1) of the FDR establishes 0.1 ppm as the "General Maximum Residue Limit".

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

**5** EUROPEAN UNION - Has a default value of 0.01ppm in the event of no MRLs listed. For export to the UK please refer to the EU MRLs.

6 INDONESIA will defer to Codex if there is no national MRL.

7 JAPAN - has set a general limit if there is no MRL set indicating the amount **unlikely** to cause damage to human health that the provision of Paragraph 3, Article 11 of the Food Sanitation Law requires the Minister to set is 0.01 ppm.

8 MALAYSIA: For those values listed as 'not set', refer to the corresponding Codex value. If no Codex MRL exists a default MRL of 0.01 mg/kg then applies.(Regulation 41).

9 SINGAPORE: In the absence of a set MRL, default to the Codex level.

10 TAIWAN: In the absence of a set MRL, except for those import tolerances developed, a zero tolerance applies.

11 Provisional MRLS

12 MRL or EMRL is set at or about the limit of determination

13 Codex Interim MRL (2005-2009)

'A' Apple                      'P' Pear                      Otherwise refers to both.

'not set' denotes that no MRL has been established, refer to details above for each countries default value.

'not required' denotes that no MRL has been established, and any detection is permissible.

'T' denotes that the MRL residue definition or use is temporary to enable further experimental work to be carried out in Australia or overseas, and will be reconsidered at some further date. This symbol is also used in cases where the MRL is being phased out.

'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** - *Australian Pesticides and Veterinary Medicines Authority (APVMA)*

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**Canada** - List of Maximum Residue Limits Regulated Under the Pest Control Canadian MRLs

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**Codex** - Codex Alimentarius Commission. *FAO/WHO Food Stds Codex Alimentarius Pesticide Residues in Food - MRLs & Extraneous MRLs*

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**European Union** - The EU pesticide residues database provides for a search tool for all the EU-MRLs set in Reg. (EC) No 396/2005

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**Indonesia** - *Maximum Limits of Pesticide Residues in Agricultural Products* available on the Ministry of Agriculture. Note: Indonesia is in the process of draft new regulations for MRLs.

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**Japan** - *Positive List System for Agricultural Chemical Residues in Foods*

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**Malaysia** - *Laws of Malaysia. Food (Amendment) Regulations 2004* available on the Ministry of Health Food Safety and Quality Division

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**Singapore** - *Revised Edition of Subsidiary Legislation - Sale of Food Act (Chapter 283)*

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**Taiwan** - Department of Health, Taiwan, ROC. *Food Sanitation - Pesticide Residue Limits in Foods*

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**USA** -TITLE 40--Protection of Environment CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY SUBCHAPTER E--PESTICIDE PROGRAMS PART 180--  
TOLERANCES AND EXEMPTIONS FOR PESTICIDE CHEMICAL RESIDUES IN FOOD