

RECOMMENDED USAGE RESTRICTIONS FOR PLANT PROTECTION PRODUCTS ON SOUTHERN AFRICAN EXPORT CITRUS

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August 2025 (Number 59)

The purpose of these restrictions is to ensure compliance with residue tolerances in the countries to which southern African citrus is exported. The recommendations on container labels are based on the **current registrations** of plant protection products. In terms of the SA Act 36 of 1947 (and equivalent legislation in neighbouring countries) the registration requirements must be adhered to at all times. However, the requirements of importing countries have made it necessary to introduce **further restrictions** in order to comply with maximum residue limits (MRLs).

The active ingredients of the products are listed alphabetically together with an illustrative brand name. In the case of commodity products which may be sold under different brand names, only a single name is shown for convenience. This does not imply endorsement of the particular brand concerned.

Due to the multiple fruit set pattern of lemons, plant protection products may only be used as specified during the first spring **blossoming and fruit set** period. Special caution should be exercised to ensure that pesticides applied to protect later sets do not result in unacceptable residues in fruit remaining on the trees from earlier sets. The following general statements are applicable to the use of plant protection products on all cultivars:

- * Growers should ensure that these restrictions are kept handy and are consulted before the application of plant protection products.
- * The application in accordance with current label requirements will in many instances not ensure that export requirements will be met. The restrictions specified are applicable in addition to the label requirements.
- * The withholding periods specified on product labels provide an indication of the ability of treatments to conform to South African residue levels. Since overseas requirements are generally more stringent and these withholding periods are not adequate unless specifically mentioned in this document.
- * These restrictions apply to the period during which fruit is present on trees (between blossom and harvest) and not to the period between harvest and the onset of blossom, during which time standard label requirements apply.
- * All usages apply to normal blossom situations. Under conditions where blossoming occurs over an extended period, a more conservative approach must be adopted. Under these conditions treatments should be timed according to the early portion of the blossom.
- * Particular attention must be given to ensuring that spray machinery is calibrated to apply the correct spray volumes in relation to tree size and that spray operators are trained in the handling and application of plant protection products.
- * All treatments referred to above must be applied at the registered concentrations.
- * Alternation of products, where applicable with reference to the restrictions, will reduce the risk of excessive residues of any one chemical and will also reduce selection pressure for resistance.
- * The additional restrictions in this document do not necessarily provide an indication of the compatibility of the products with integrated pest management and good agricultural practice.
- * The addition of oil to a treatment, if not registered as such, should be avoided as this may increase the residue level.

All exporting growers should keep accurate spray records so that in the event of exceeding MRLs the reasons can be determined. These records should be retained in safe-keeping for at least 3 years.

Growers are strongly urged to abide by these restrictions to minimise the risk of residue tolerances being exceeded. However, it must be noted that no absolute guarantee can be given that even by following these guidelines export residue tolerances will in all instances not be exceeded. The efficacy and integrated pest management compatibility of plant protection products listed here are additional considerations that users should bear in mind and which are not covered in this document whatsoever. This document has been compiled with information presently available and in good faith, but with the express condition that the authors, Citrus Research International and Citrus Growers' Association of Southern Africa, accept no responsibility whatsoever for any loss or damage resulting directly or indirectly from the use thereof.

SUMMARY TABLE OF RECOMMENDED USAGE RESTRICTIONS

Active ingredient and product example	All markets (including EU) except where other restrictions are specified	CODEX (A) ^a	CODEX (B) ^b	CANADA	U S A	JAPAN	Other
Acephate/ Protectostem	70d PHI	-	40d PHI as registered.	-	-	-	South Korea: 70d PHI for lemons, oranges and grapefruit and 40d PHI for soft citrus.
Acequinocyl/ Kanemite	7d PHI as registered.	14d PHI	7d PHI as registered.	7d PHI as registered.	7d PHI as registered.	7d PHI as registered.	South Korea: 14d PHI for grapefruit and 7d PHI as registered for other citrus. GSO: 14d PHI.
Acetamiprid/ Mospilan	150d PHI as registered.	-	-	-	-	-	South Korea: 150d PHI as registered.
Acrinathrin/ Ruffast	Not later than 90% petal fall.	-	-	-	-	-	-
Amitraz/ Mitac	Not later than 90% petal fall.	-	-	150d PHI	-	28d PHI as registered.	South Korea: 28d PHI as registered for soft citrus and lemons and not later than 90% petal fall for other citrus.
Avermectin/ Agrimec	7d PHI as registered.	-	-	-	-	-	-
Azadirachtin	See Pyrethrins	-	-	-	-	-	-
Azinphos-methyl/ Gusathion	Not later than 90% petal fall.	Not later than 90% petal fall.	120d PHI	21d PHI as registered.	Not later than 90% petal fall.	21d PHI as registered.	GSO: 120d PHI. South Korea: Not later than 90% petal fall.
Azoxystrobin/ Ortiva	Pre-harvest: 77d PHI as registered on grapefruit, oranges and soft citrus, and 14d or 21d as registered on lemons. Post-harvest as registered.	-	-	-	-	-	China: Pre-harvest: 77d PHI as registered on grapefruit, oranges and soft citrus, and 14d or 21d as registered on lemons. Post-harvest: see note q
<i>Bacillus thuringiensis</i> / Dipel	0d PHI as registered.	-	-	-	-	-	-
<i>Beauveria bassiana</i> / BroadBand	0d PHI as registered.	-	-	-	-	-	-
Bromopropylate/ Acarol	Not later than 90% petal fall. Be sure to avoid application directly to small fruitlets e.g., in situations of unsynchronized blossom.	-	-	21d PHI	-	21d PHI	GSO: 21d PHI.

Active ingredient and product example	All markets (including EU) except where other restrictions are specified	CODEX (A) ^a	CODEX (B) ^b	CANADA	U S A	JAPAN	Other
Buprofezin/ Applaud	Not later than mid- October for oranges and grapefruit and not later than 90% petal fall for lemons and soft citrus.	45d PHI as registered.	45d PHI as registered.	45d PHI as registered.	45d PHI as registered.	45d PHI as registered.	45d PHI as registered. South Korea: Not later than mid-October for grapefruit and 45d PHI as registered for other citrus.
Cadusaphos/ Rugby	0d PHI as registered.	-	-	-	-	-	-
Carbendazim (Bavistin, Bendazid, Knowin, Benomyl, Spotless)	Not permitted. ^{SA1, EU5}	90d PHI for oranges and not later than 90% petal fall for other citrus.	14d PHI as registered.	14d PHI as registered.	Not later than 90% petal fall.	14d PHI as registered.	South Korea: 14d PHI as registered for oranges and soft citrus, 90d PHI for lemons and not later than 90% petal fall for grapefruit. GSO: 90d PHI for oranges, lemons and mandarins and not later than 90% petal fall for grapefruit. Thailand: 90d PHI for oranges and not later than 90% petal fall for other citrus. China: 14d PHI as registered for oranges and soft citrus and 120d PHI for lemons and grapefruit. Bangladesh: 90d PHI for oranges and 14d as registered for other citrus. Switzerland: see note d.
Chlorfenapyr/ Hunter	Medium cover spray: Before calyx closure (\pm 3 weeks after petal fall) as registered. Bait spray application (30ml): Not later than mid-December and a 140d PHI as registered.	-	-	-	-	-	-
Chlorantraniliprole (Rynaxypyr)/ Coragen	7d PHI as registered.	-	-	-	-	7d PHI as registered. Not later than 90% petal fall for soft citrus.	Norway: see note g.
Clothianidin/ Dantop	120d PHI as registered.	-	-	-	-	-	-
Clove Oil/ EcoTizer	0d PHI as registered.	-	-	-	-	-	-
Copper	14d PHI as registered	-	-	-	-	-	-

Active ingredient and product example	All markets (including EU) except where other restrictions are specified	CODEX (A) ^a	CODEX (B) ^b	CANADA	U S A	JAPAN	Other
Cyantraniliprole / Exirel	7d PHI as registered for foliar applications and 1d PHI as registered for bait sprays.	-	-	-	-	-	Taiwan: Not later than 90% petal fall.
Cyhexatin (Azocyclotin)/ Sipcatin	Only to be used after harvest and before the onset of blossom.	-	-	-	Not permitted	-	Taiwan and Thailand: Not permitted.
Cypermethrin	28d PHI as registered. ^{EU6}	-	-	-	28d PHI as registered for alpha and zeta-Cypermethrin formulations. Not later than 90% petal fall for Cypermethrin ^c	-	-
Dichlorprop-p/ Corasil P	90d PHI as registered.	-	-	-	-	-	-
Dichlorvos/ Devipan	21d PHI	-	-	-	-	-	-
Dicofol/ Kelthane	Not later than 90% petal fall.	-	14d PHI. Russia: Not later than 90% petal fall.	-	-	14d PHI	-
Difenoconazole/ Score	Not later than 90% petal fall as registered.	-	-	-	-	-	-
Dimethoate/ Rogor	Not later than 50% petal fall for foliar applications and not later than white bud stage for soil applications.	14d PHI for foliar applications and 42d PHI for soil applications as registered for mandarins. For other citrus not later than 50% petal fall for foliar applications and not later than white bud stage for soil applications.	-	14d PHI for foliar applications and 42d PHI for soil applications as registered.	14d PHI for foliar applications and 42d PHI for soil applications as registered.	14d PHI for foliar applications and 42d PHI for soil applications as registered.	GSO: 14d PHI for foliar applications and 42d PHI for soil applications as registered.

Active ingredient and product example	All markets (including EU) except where other restrictions are specified	CODEX (A) ^a	CODEX (B) ^b	CANADA	U S A	JAPAN	Other
Didecyl Dimethyl ammonium Chloride/ Sporekill	Pre-harvest: Do not apply later than 80% petal fall and do not apply on fruit. Post-harvest: Not permitted.	-	-	-	-	-	-
Dithiocarbamates (Mancozeb/Maneb)	21d PHI or 28d PHI as registered. ^{EU4}	Not later than 90% petal fall for lemons and grapefruit and 21d or 28d PHI as registered for soft citrus and oranges.	-	Not later than end December and only where packhouses have either a non-recycling high pressure spray or non-recycling Deccosol foam curtain and regular (twice daily) cleaning of brushes.	Not later than 90% petal fall for oranges, lemons and grapefruit and 21d or 28d PHI as registered for soft citrus.	Not later than end-January.	South Korea: 21d PHI or 28d PHI as registered for oranges, soft citrus and lemons. Not later than 90% petal fall for grapefruit. India: Not later than end December and only where packhouses have either a non-recycling high pressure spray or non-recycling Deccosol foam curtain and regular (twice daily) cleaning of brushes. Bangladesh: Not later than 90% petal fall.
Dipotassium phosphate	7d PHI as registered.	-	-	-	-	-	-
(E)-8-Dodecen-1-yl acetate + (Z)-8-Dodecen-1-yl acetate/ Checkmate	0d PHI as registered.	-	-	-	-	-	-
Dodine/ Dimex	56d PHI as registered.	Not later than 90% petal fall	-	112d PHI	Not later than 90% petal fall	112d PHI	Great Britain, India, South Korea, Taiwan: Not later than 90% petal fall.
Emamectin Benzoate/ Warlock	14d PHI as registered.	-	-	-	-	-	-
Ethephon/ Ethrel	Not permitted.	-	As registered	Not permitted.	-	Post-harvest use not permitted.	-
Ethoprophos/ MOCAP	0d PHI as registered.	-	-	-	-	-	-

Active ingredient and product example	All markets (including EU) except where other restrictions are specified	CODEX (A) ^a	CODEX (B) ^b	CANADA	U S A	JAPAN	Other
Etoazole/ Smite	Not later than 90% petal fall.	-	-	-	Not later than 90% petal fall for lemons and grapefruit and 28d PHI as registered for oranges and soft citrus.	-	South Korea: Not later than 90% petal fall for oranges and grapefruit and 28d PHI as registered for lemons and soft citrus.
Fenamiphos/ Nemaicur	150d PHI as registered.	-	-	-	-	-	-
Fenazaquin	56d PHI as registered.	-	-	-	-	-	-
Fenbutatin-oxide/ Torque	Not later than 90% petal fall.	7d PHI as registered.	7d PHI as registered.	7d PHI as registered.	7d PHI as registered.	7d PHI as registered.	7d PHI as registered. South Korea: Not later than 90% petal fall.
Fenpropathrin/ Meothrin	28d PHI as registered (180d PHI). ^{EU2}	-	-	-	-	-	-
Fenpropathrin + Phenthoate/ Meothrin + Elsan	Not later than 90% petal fall.	-	-	-	-	-	-
Fenpyroximate/ Mitigate	28d PHI as registered.	28d PHI as registered for lemons and grapefruit and not later than 90% petal fall for oranges and mandarins.	-	-	-	-	GSO: 28d PHI as registered. (28d PHI as registered for lemons and grapefruit and not later than 90% petal fall for oranges and mandarins).
Fipronil/ Regent	Before calyx closure (\pm 3 weeks after petal fall) as registered.	-	-	-	-	-	-
Fluopyram / Velum	120d PHI as registered.	-	-	-	-	-	-
Flutriafol/ Impact	Not later than 90% petal fall as registered.	Not later than 90% petal fall.	-	-	Not later than 90% petal fall.	Not later than 90% petal fall.	South Korea: Not later than 90% petal fall.
Formetanate/ Dicarzol	90d PHI as registered.	-	-	-	-	-	-
Fosetyl-Al/Aliette	25d or 0d PHI as registered.	-	-	-	-	-	-
Fludioxonil/ Teacher	Pre-harvest: Apply as registered, not after fruit set. Post-harvest as registered.	-	-	-	-	-	Taiwan: ^{T1}
Fosthiazate/ Nemathorin	43d PHI as registered.	-	-	-	-	-	-
Furfural/ Crop Guard	43d PHI as registered.	-	-	-	-	-	-
Gibberellic Acid	15d PHI as registered.	-	-	-	-	-	-

Active ingredient and product example	All markets (including EU) except where other restrictions are specified	CODEX (A) ^a	CODEX (B) ^b	CANADA	U S A	JAPAN	Other
Granulovirus (Cryptogran, Cryptex)	0d PHI as registered.	-	-	-	-	-	-
Guazatine	Not Permitted.	Post-harvest as registered.	Post-harvest as registered.	-	-	-	GSO: Post-harvest as registered.
Helicoverpa armigera nucleopolyhedrovirus/ Helicovir	0d PHI as registered.	-	-	-	-	-	-
Hydrogen Peroxide/ HyperCide	0d PHI as registered.	-	-	-	-	-	-
Imazalil (Chloramizol)	Post-harvest as registered.	-	-	-	-	-	-
Imidacloprid/ Confidor	212d PHI as registered (Not to be used on bearing trees with fruit destined for the EU). ^{EU3}	212d PHI as registered.	212d PHI as registered.	212d PHI as registered.	212d PHI as registered.	212d PHI as registered.	Great Britain ^m : 212d PHI as registered. Thailand and Taiwan: 212d PHI as registered.
Kresoxim-methyl/ Strobry	56d PHI for grapefruit & oranges. Not later than 90% petal fall for lemons & soft citrus.	-	56d PHI	56d PHI for soft citrus, and not later than 90% petal fall for other citrus.	Not later than 90% petal fall.	56d PHI	Not later than 90% petal fall. South Korea: 115d PHI as registered for soft citrus and not later than 90% petal fall for other citrus.
Mefentrifluconazole/ Revycare	14d PHI as registered.	-	-	-	Not later than 90% petal fall for mandarins and 14d PHI as registered for other citrus.	-	Great Britain and Switzerland: Not later than 90% petal fall. Taiwan: Not later than 90% petal fall for mandarins and 14d PHI as registered for other citrus.
Mercaptothion/ Malathion (fruit fly baiting only)	Only dilute concentration, do not use higher concentrations. 7d PHI.	-	-	14d PHI	-	-	South Korea: 7d PHI for oranges and 28d PHI for other citrus. Thailand: 14d PHI for grapefruit and 7d PHI for other citrus. Switzerland: 28d PHI.
Metalaxyl M/ Ridomil Gold	Not later than 90% petal fall for lemons and 30d PHI as registered for other citrus.	30d PHI as registered.	30d PHI as registered.	30d PHI as registered.	30d PHI as registered.	30d PHI as registered.	South Korea: Not later than 90% petal fall.
Methamidophos/ Citrimet	60d PHI	-	21d PHI as registered.	21d PHI as registered.	-	-	-
Methidathion/ Ultracide	Not later than 90% petal fall.	-	56d PHI as registered.	56d PHI as registered.	-	56d PHI as registered.	GSO: 56d PHI as registered.

Active ingredient and product example	All markets (including EU) except where other restrictions are specified	CODEX (A) ^a	CODEX (B) ^b	CANADA	U S A	JAPAN	Other
Methomyl (Thiodicarb) / Lannate	60d PHI for all registered usages.	28d PHI for all registered usages.	28d PHI for all registered usages.	28d PHI for all registered usages.	28d PHI for all registered usages.	28d PHI for all registered usages.	GSO: 28d PHI for all registered usages.
Methoxyfenozide / Runner	30d PHI as registered.	-	-	-	-	-	-
Methyl-parathion / Penncap	Not later than 50% petal fall.	-	-	-	-	-	-
Mevinphos	28d PHI	-	3d PHI as registered.	3d PHI as registered.	-	-	South Korea: 3d PHI as registered.
Orange Oil/ Prev-Am	0d PHI as registered.	-	-	-	-	-	-
Omethoate/ Folimat	Apply no more than once in a season, not later than beginning of December and ensure at least a 150d PHI.	-	-	-	-	-	-
Parathion/ Parathion	Not later than 50% petal fall.	-	-	-	-	Not later than 4 weeks after petal fall.	-
Peracetic acid/ Hypercide	0d PHI as registered.	-	-	-	-	-	-
Permethrin/ Last Call	0d PHI as registered.	-	-	-	-	-	-
Phenthoate/ Elsan	Not later than 50% petal fall.	-	-	-	-	-	-
Phosphorous acid	0d PHI, 14d PHI or 28d PHI as registered.	-	-	-	-	-	-
Pirimicarb/ Aphox	14d PHI as registered.	-	-	Not later than 90% petal fall.	Not later than 90% petal fall.	14d PHI as registered for oranges and not later than 90% petal fall for other citrus.	Switzerland, Singapore, South Korea, Vietnam: Not later than 90% petal fall.
Potassium bicarbonate/ Agri-Cure SP	0d PHI as registered.	-	-	-	-	-	-
Prochloraz	Not permitted.	Post-harvest as registered.	Post-harvest as registered.	-	-	-	South Korea: Post-harvest as registered for mandarins and oranges. Not permitted on grapefruit and lemons.
Profenofos/ Selecron	Between blossom and harvest, use Selecron only once and not more than 100mℓ/100ℓ water at not later than 50% petal fall ^Y	-	-	-	-	-	-

Active ingredient and product example	All markets (including EU) except where other restrictions are specified	CODEX (A) ^a	CODEX (B) ^b	CANADA	U S A	JAPAN	Other
Propiconazole / Propicure	Not permitted. ^{SA1}	Post-harvest as registered.	Post-harvest as registered.	Post-harvest as registered.	Post-harvest as registered.	Post-harvest as registered.	Not permitted for Hong Kong, India, Vietnam, GSO countries.
Prothiofos/ Tokuthion	Between blossom and harvest, Prothiofos should be used only once and not later than 90% petal fall.	-	-	-	-	-	-
Pymetrozine/ Chess	Not later than 90% petal fall.	-	-	42d PHI as registered for oranges, soft citrus and lemons, and not later than 90% petal for grapefruit.	-	-	South Korea: 42d PHI as registered for oranges, soft citrus and lemons, and not later than 90% petal fall for grapefruit.
Pyraclostrobin/ Cabrio	45d PHI as registered.	-	-	-	-	-	-
Pyrethrins (incl natural Pyrethrum) / Erador	2d PHI as registered.	Not later than 90% petal fall.	Not later than 90% petal fall.	2d PHI as registered for oranges and not later than 90% petal fall for other citrus.	2d PHI as registered for oranges and not later than 90% petal fall for other citrus.	-	China, Hong Kong, Russia, South Korea, Taiwan, Thailand and GSO countries: Not later than 90% petal fall.
Pyrimethanil / Philabuster	Pre-harvest: 90d PHI as registered. Post-harvest as registered. Do not use in HOT water bath.	Pre-harvest: 90d PHI as registered. Post-harvest as registered. Do not use in HOT water bath and not recommended for wax application.	-	-	-	-	Russia, Singapore, Taiwan and GSO countries: Pre-harvest: 90d PHI as registered. Post-harvest as registered. Do not use in HOT water bath and not recommended for wax application. South Korea: Pre-harvest: 90d PHI as registered. Post-harvest: Not permitted on soft citrus.
Pyriproxyfen/ Nemesis	90d PHI as registered.	-	-	-	-	-	Switzerland: 120d PHI. South Korea: Not later than 90% petal fall for grapefruit and lemons.

Active ingredient and product example	All markets (including EU) except where other restrictions are specified	CODEX (A) ^a	CODEX (B) ^b	CANADA	U S A	JAPAN	Other
Sodium ortho-phenyl-phenol (SOPP)	Post-harvest as registered.	-	-	-	-	-	South Korea: Not permitted.
Spinetoram/ Delegate	14d PHI for grapefruit and lemons and 7d PHI as registered of other citrus.	7d PHI as registered for oranges and soft citrus and 14d PHI for other citrus.	-	7d PHI as registered.	7d PHI as registered.	7d PHI as registered.	Great Britain ^m : 14d PHI.
Spinosad/ (Tracer/GF120)	1d PHI as registered for fruit fly baiting (GF120), but 28d PHI for other applications (Tracer).	-	-	-	-	-	-
Spirodiclofen/ Envidor	Not permitted. ^{SA1}	-	-	-	-	-	Switzerland: Not later than 90% petal fall. ^e
Spirotetramat/ Movento	60d PHI as registered.	-	-	-	-	-	-
Sulfoxaflor (Isoclast) / Closer	21d PHI as registered.	-	-	-	-	-	-
Sulphur	0d PHI as registered.	-	-	-	-	-	-
Tartar emetic/ Tartox	30d PHI as registered.	-	-	-	-	-	-
Tau-fluvalinate/ Klartan	Not later than mid-November as registered.	-	-	-	-	-	-
Tebuconazole/ Folicur	Not later than 90% petal fall as registered.	-	-	-	-	-	-
Terbufos/ (AC92-100, Counter)	30d PHI as registered and not to be used between December and 1 April. (Not permitted). ^{SA2}	-	-	-	-	-	-
Tetradifon/ Tedion	Not later than 90% petal fall.	-	15d PHI	15d PHI	-	15d PHI	Switzerland: Not later than 90% petal fall. South Korea: 15d PHI for soft citrus and not later than 90% petal fall for other citrus.
Thiabendazole	Post-harvest as registered.	-	-	-	-	-	-
Thiacloprid/ Calypso	Not permitted. ^{SA1}	-	-	-	-	-	-
Thiophanate-methyl/ Topsin	Not later than 90% petal fall.	-	14d PHI as registered.	14d PHI as registered.	Not later than 90% petal fall.	14d PHI as registered.	-
<i>Trichoderma asperellum</i>	0d PHI as registered.	-	-	-	-	-	-
Trifloxystrobin/ Flint	76d PHI as registered.	-	-	-	-	-	-
Triflumuron/ Alsystin	Not later than 90% petal fall.	-	30d PHI as registered.	60d PHI	Not permitted	-	-

Active ingredient and product example	All markets (including EU) except where other restrictions are specified	CODEX (A) ^a	CODEX (B) ^b	CANADA	U S A	JAPAN	Other
Uniconazole/ Tip Plus	28d PHI for oranges, mandarins and grapefruit and 135d PHI for lemons.	-	-	-	-	-	-
2,4-D	Post-harvest: Not more than 250 ppm in a packhouse treatment and not more than 250 ppm in a pre-degreening drench. Pre-harvest:7d PHI as registered.	-	-	-	-	Pre-harvest as registered.	South Korea: see note p. China: see note o.
3,5,6 TPA / Maxim	120d PHI as registered.	-	-	-	-	-	-

PHI = Pre-harvest interval.

- = as for "all markets", that is no additional restrictions apply.

GSO = Gulf State Organization (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates).

SUMMARY TABLE OF RESIDUE TOLERANCES

Chemical	RSA	General export tolerance	Codex	Canada	USA	Japan	South Korea
Acephate	0.2	0.01	None	0.1	None	0.01	5.0 ¹³ , 0.01 ¹¹
Acequinocyl	0.2 ⁿ	0.2	None	0.35	0.35	2.0	1.0 ¹³ , 0.7 ^{7,20} , None ¹⁹
Acetamiprid	0.5	0.5	1.0	0.5	1.0	2.0	0.5
Acrinathrin	0.2	0.01	None	0.1	None	0.01	1.0 ¹³ , 0.01 ¹¹
Amitraz	0.2	0.05	0.5 ⁷ , None ¹¹	0.1	None	0.9 ^{7, 13} , 0.5 ^{19, 20}	0.05 ⁷ , 0.2 ¹³ , 0.7 ²⁰ , 0.01 ¹⁹
Avermectin	0.01	0.01	0.02	0.02	0.02	0.1	0.07 ¹³ , 0.05 ⁷ , 0.02 ²⁰ , 0.01 ¹⁹
Azadirachtin	None	0.01	None	0.1	Exempt	Exempt	0.01
Azinphos-methyl	2.0	0.01	None	2.0	None	2.0	0.01
Azoxystrobin	10.0	10.0	15.0	15.0	15.0	10.0	9.0 ¹³ , 10.0 ¹¹
<i>Bacillus thuringiensis</i>	None	None	None	None	None	None	Exempt
Bromopropylate	3.0	0.01	None	2.0	None	2.0	0.01
Buprofezin	0.05	0.01	1.0	4.0 ^{7,13} , 0.1 ^{19,20}	4.0	3.0	2.5 ^{7,20} , 0.5 ¹³ , 0.01 ¹⁹
Cadusafos	0.05	0.01	None	0.1	None	0.01	0.01
Carbendazim ^{SA1}	5.0	0.7 ^{13,20} , 0.2 ^{7,19} (0.01 ^{7,19,13}) EU5	1.0 ⁷ , None ¹¹	10.0	None	7.0 ^{19,20} , 3.0 ¹¹	7.0 ⁷ , 5.0 ¹³ , 0.7 ²⁰ , 0.01 ¹⁹
Chinomethionat	0.5	0.01	None	0.1	None	0.2 ²⁰ , 0.7 ¹¹	0.01
Chlorfenapyr	0.01	0.01	1.5 ⁷ , 0.8 ²⁰ , None ¹¹	0.1	0.01	2.0	1.0 ^{13,20} , 0.7 ⁷ , 0.01 ¹⁹
Chlorantraniliprole	0.5	0.5 (0.01) ^g	0.7	0.7	1.4	0.7	1.0 ^{13,20} , 0.6 ^{7,19}
Clothianidin	0.01	0.01	0.07	0.1	0.07 ^{US1}	2.0	1.0 ¹³ , 0.3 ^{7,20} , 0.01 ¹⁹
Clove oil (Eugenol)	None	None	None	None	Exempt	None	None
Copper	20.0	20.0	None	50.0	Exempt	Exempt	Exempt
Cyantraniliprole	1.0	0.9	0.7	0.7	0.7	0.7	0.7
Cyhexatin (Azocytotin)	2.0	0.01 ¹¹ , 0.2 ⁷	0.2 ⁷ , None ¹¹	0.1	Not permitted	0.5 ⁷ , 0.2 ¹¹	1.0 ¹³ , 0.01 ¹¹
Cypermethrin	0.2	0.2	0.3 ¹¹ , 0.5 ¹⁹	1.0	None, (0.35, 0.5 ¹⁹ , 0.3 ^{7,20}) ^c	2.0	2.0 ¹³ , 1.5 ²⁰ , 0.3 ^{7,19}
Dichlorprop	0.3	0.3	None	0.1	None	0.2	0.01
Dichlorvos	0.1	0.01	None	0.1	None	0.2	0.2 ¹³ , 0.05 ^{20,7} , 0.01 ¹⁹
Dicofol	5.0	0.02	None	0.1	None	5.0	0.01
Difenoconazole	0.05	0.05	0.6	0.8	0.6	0.6	0.6 ⁶ , 1.0 ¹³
Dimethoate	2.0	0.01	2.0 ¹³ , None ¹¹	1.5	2.0	2.0	0.01
Didecyl Dimethyl Ammonium Chloride	6.0	0.05	None	0.1	Exempt	Not permitted	0.01
Dipotassium phosphate	None	None	None	0.1	None	0.01	0.01
Dithiocarbamate	3.0	3.0	10.0 ¹³ , 2.0 ⁷ , None ¹¹	0.1	10.0 ¹³ , None ¹¹	10.0 ¹³ , 2.0 ¹¹	5.0 ^{7,13} , 3.0 ²⁰ , 0.01 ¹⁹
Dodine	1.5 ⁿ	1.5	None	0.1	None	0.2	0.01
(E)-8-Dodecen-1-yl acetate + (Z)-8-Dodecen-1-yl acetate	None	0.01	Exempt	None	Exempt	None	None
Emamectin Benzoate	0.01	0.002 ¹⁹ , 0.003 ¹¹	None	0.1	None	0.01	0.05 ^{7,13,20} , 0.01 ¹⁹

Chemical	RSA	General export tolerance	Codex	Canada	USA	Japan	South Korea
Ethephon	2.0	0.05 (0.01) ^{EU1}	None	0.1	None	2.0	0.01
Ethoprophos	0.05	0.01	None	0.1	None	0.01	0.01
Etoxazole	0.2	0.01	0.1	0.1	0.17,13, None ¹¹	0.7	1.0 ¹³ , 0.7 ²⁰ , 0.01 ^{7,19}
Fenamiphos	0.05	0.01	None	0.1	None	0.01	0.01
Fenazaquin	0.05	0.05	None	0.4	0.4	0.4	2.0 ¹³ , 0.4 ¹¹
Fenbutatin-oxide (Hexakis)	1.0	0.01	5.0	2.0	20.0	5.0	0.01
Fenpropathrin	0.5	0.5 (0.01) ^{EU2}	2.0	2.0	2.0	5.0	5.0 ¹³ , 2.0 ¹¹
Fenpyroximate	0.2	0.2	None ¹¹ , 1.0 ²⁰ , 0.5 ¹⁹	1.0	1.0	2.0	0.7
Fipronil	0.05	0.005	None	0.1	None	0.01	0.01
Fludioxonil	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Fluopyram	0.01	0.01	1.0 ²⁰ , 0.6 ^{7,13} , 0.4 ¹⁹	1.0	1.0	0.4 ¹⁹ , 0.6 ⁷ , 1.0 ¹¹	1.0
Flutriafol	0.1	0.01	None	0.1	None	0.01	2.0 ^{13,20} , 0.01 ^{7,19}
Formetanate	0.5	0.01	None	0.9 ⁷ , 0.4 ¹⁹ , 0.09 ²⁰ , 0.03 ¹³	1.5 ^{7,19} , 0.6 ²⁰ , 0.03 ¹⁰	2.0 ^{7,19} , 0.6 ²⁰ , 0.03	0.01
Fosetyl-Al	50.0	50.0	50.0 ¹³ , 20.0 ⁷ , None ¹¹	9.0	9.0	150.0	9.0 ¹³ , 4.0 ⁷ , 0.01 ^{19,20}
Fosthiazate	0.1	0.02	None	0.1	None	0.01	0.01
Furfural	1.0 ⁿ	1.0	None	0.1	None	0.01	0.01
Gibberellic Acid	Exempt	Exempt	Exempt	0.1	Exempt	0.2	Exempt
Granulovirus	None	None	None	None	Exempt	None	None
Guazatine	5.0	0.05	5.0	0.1	None	0.01	0.01
<i>Helicoverpa armigera</i> nucleopolyhedrovirus	None	None	Exempt	None	None	None	None
Hydrogen Peroxide	None	None	Exempt	None	Exempt	None	None
Imazalil (Chloramizol)	5.0	5.0 ^{13,20} , 4.0 ^{7,19}	15.0	5.0	10.0	5.0	15.0
Imidacloprid	0.5	0.5 (0.01) ^{EU3}	1.0	1.0	0.7	0.7	0.7
Kresoxim-methyl	0.5	0.5 ^{7,19} , 0.01 ¹¹	0.5 ^{7,19} , None ¹¹	9.0 ¹³ , 0.1 ¹¹	None	10.0	2.0 ³ , 0.01 ¹¹
Mercaptothion (malathion)	4.0	2.0	7.0	0.1	8.0	7.0	4.0 ⁷ , 0.01 ¹¹
Mefentrifluconazole	0.01 ⁿ	0.01	0.5 ¹⁹ , 1.0 ⁷ , 1.5 ^{13,20}	0.5 ¹⁹ , 0.6 ^{7,13} , 1.0 ²⁰	0.5 ¹⁹ , 0.6 ⁷ , 1.0 ²⁰ , None ¹³	0.5 ¹⁹ , 0.6 ⁷ , 1.0 ¹¹	0.5 ¹⁹ , 0.7 ¹³ , 1.0 ^{7,20}
Metalaxyl-M (Mefenoxam)	1.0	0.01 ²⁰ , 0.4 ¹³ , 0.7 ¹⁹	5.0	5.0	1.0	0.7	0.01
Methamidophos	0.2	0.01	None	0.1	None	0.01	0.2 ¹³ , 0.01 ¹¹
Methidathion	2.0	0.02	None	2.0	None	5.0	0.01
Methomyl (Thiodicarb)	0.2	0.01	1.0	1.0	2.0	10.0	0.7 ¹³ , 0.01 ¹¹
Methoxyfenozide	0.5	0.5	2.0	10.0	3.0	3.0	1.0 ¹³ , 3.0 ¹¹
Methyl-parathion	1.0	0.01	None	0.1	None	0.2	0.01
Mevinphos	0.1	0.01	None	0.2	None	0.01	0.01
Orange Oil	Exempt	Exempt	Exempt	None	Exempt	Exempt	Exempt
Omethoate	2.0	0.01	None	0.1	None	1.0	0.01
Parathion	0.5	0.05	None	0.1	None	0.5	0.01
Peracetic acid	None	0.01	None	None	Exempt	None	None
Permethrin	0.01	0.01	0.5	0.1	None	5.0	0.01
Phenthoate	1.0	0.01	None	0.1	None	5.0	2.0 ²⁰ , 1.0 ¹¹
Phosphorous acid	50.0	50.0	None	0.1	Exempt	150.0	0.01
Pirimicarb	0.5	0.5	3.0	0.1	None	0.5 ⁷ , 0.05 ¹¹	0.01

Chemical	RSA	General export tolerance	Codex	Canada	USA	Japan	South Korea
Potassium bicarbonate	None	None	None	0.1	Exempt	0.01	0.01
Prochloraz	2.0	0.03	10.0	0.1	None	0.01	3.0 ¹³ , 2.0 ⁷ , 0.01 ¹¹
Procymidone	0.2	0.01	None	0.1	None	5.0	0.01
Profenofos	1.0	0.01	None	0.1	None	0.01	0.01
Propiconazole ^{SA1}	6.0	0.01	10.0, 4.0 ¹⁹	8.0	8.0	8.0	8.0
Prothiofos	0.05	0.01	None	0.1	None	0.01	0.01
Pymetrozine	0.3	0.02	None	0.2 ^{7,13,20} , 0.1 ¹⁹	None	0.01	0.3 ^{13,20,7} , 0.01 ¹⁹
Pyraclostrobin	0.5	0.5	2.0	2.0	2.0	2.0	2.0
Pyrethrins (incl Pyrethrum)	1.0	1.0	0.05	1.0 ² , 0.1 ¹¹	1.0 ² , None ¹¹	1.0	0.01
Pyrimethanil	10.0	8.0	7.0	10.0	10.0	10.0	1.0 ¹³ , 7.0 ¹¹
Pyriproxyfen	0.2	0.2	0.5	0.5	0.5	2.0	0.7 ¹³ , 0.6 ⁷ , 0.01 ¹¹
SOPP	10.0	10.0	10.0	10.0	10.0	10.0	0.01
Spinetoram	0.05	0.05 ^{7,13} , 0.02 ^{19,20}	0.15 ¹³ , 0.07 ⁷ , None ¹¹	0.3	0.3	0.7	0.5 ¹³ , 0.05 ^{7,20} , 0.01 ¹⁹
Spinosad	0.05	0.05	0.3	0.3	0.3	0.3	0.3
Spirodiclofen ^{SA1}	0.1	0.1	0.4	0.5	0.5	2.0	2.0 ¹³ , 0.4 ¹¹
Spirotetramat	1.0	0.5	0.5	0.6	0.6	4.0 ^{7,13} , 0.7 ^{19,20}	2.0 ²⁰ , 0.5 ¹¹
Sulfoxaflor	0.3	0.3 ¹¹ , 0.15 ¹⁹	0.8 ^{7,13} , 0.4 ²⁰ , 0.15 ¹⁹	0.7	0.7	2.0	1.0 ¹³ , 0.7 ⁷ , 0.6 ²⁰ , 0.3 ¹⁹
Sulphur	50.0	50.0	Exempt	None	Exempt	Exempt	Exempt
Tartar emetic (Antimony)	3.0	0.01	None	0.1	None	0.01	0.01
Tau-Fluvalinate	1.0 ⁿ	0.4	None	0.1	None	2.0	0.01
Tebuconazole	0.02	0.02	0.7 ¹³ , 0.4 ⁷ , None ¹¹	1.0 ^{7,13} , 0.1 ¹¹	1.0 ⁷ , None ¹¹	5.0	2.0 ^{13,20} , 1.5 ⁷ , 0.01 ¹⁹
Terbufos ^{SA2}	0.1	0.01	None	0.1	None	0.005	0.01
Tetradifon	5.0	0.01	None	2.0	None	2.0	3.0 ¹³ , 0.01 ¹¹
Thiabendazole	6.0	6.0	7.0	10.0	10.0	10.0	10.0 ¹³ , 7.0 ¹¹
Thiacloprid ^{SA1}	0.05	0.01	None	0.1	None	0.01	0.7 ^{7,20} , 0.3 ¹³ , 0.01 ¹⁹
Thiophanate-Methyl	5.0	0.01	None	10.0	None	7.0 ^{19,20} , 3.0 ¹¹	0.01
<i>Trichoderma asperellum</i>	None	None	Exempt	None	None	None	Exempt
Trifloxystrobin	0.1	0.1	0.5	0.6	0.6	3.0	1.5 ⁷ , 0.5 ¹¹
Triflumuron	0.5	0.01	None	0.1	None	0.02	0.01
Uniconazole	0.01 ⁿ	0.01	None	0.1	None	0.01	0.01
2,4-D	2.0	1.0	1.0	2.0	3.0	3.0	1.0 ²⁰ , 0.15 ¹¹
3,5,6 TPA/Triclopyr	0.1	0.1	None	0.1	0.1 ⁷ , None ¹¹	0.1	0.1 ¹³ , 0.01 ¹¹

The **General Export Tolerance** is set at the lower value of the European Union and South African MRL. The General Export Tolerance is used as a default reference value; where MRLs in other markets are lower, it is accounted for by means of stricter recommended usage restrictions.

“None” = no MRL, therefore fruit must be free of detectable residue. However, in the case of CODEX countries additional options may apply – refer to notes.

SUMMARY TABLE OF CHANGES EFFECTIVE FROM THIS EDITION

Active	Country	Previous MRL (ppm)	New MRL (ppm)	PHI Changes
Acequinocyl	All	None	See Summary Table of Residue Tolerances	New active substance registration. See Summary Table of Recommended Usage Restrictions.
Azoxystrobin	All countries (including the EU) except where other restrictions are specified	N/A	N/A	Pre-harvest: 77d PHI as registered on grapefruit, oranges and soft citrus, and 14d or 21d as registered on lemons. Post-harvest as registered.
Azoxystrobin	China	1.0 ^{7,13}	No change	China: Pre-harvest: 77d PHI as registered on grapefruit, oranges and soft citrus, and 14d or 21d as registered on lemons. Post-harvest: see note q
Carbendazim	All countries (including the EU) except where other restrictions are specified	N/A	N/A	Not permitted. ^{SA1}
Cypermethrin	EU	2.0	2.0 (alpha-cypermethrin: 0.08; cypermethrin: 0.5 ¹⁹ , 0.3 ¹¹) ^{EU6}	No change.
Dithiocarbamates	EU	5.0	No change	EU4= There is ongoing evaluation of the Dithiocarbamate MRLs in the EU. The MRL voting procedure has been postponed; amended MRLs will likely only apply in Europe from July-August 2026 at the earliest.
Ethephon	EU	0.05	0.05 (0.01) ^{EU1}	EU1= The EU notified their intention to lower the Ethephon MRL from 0.05 ppm to 0.01 ppm on all citrus types. If adopted, this MRL will apply from February 2025. (G/SPS/N/EU/801)
Ethephon	Canada	1.0	0.1	Not permitted.
Fenpyroximate	GSO	0.6	0.6 (0.5 ¹⁹ , 1.0 ²⁰ , None ¹¹)	GSO: 28d PHI as registered (28d PHI as registered for lemons and grapefruit and not later than 90% petal fall for oranges and mandarins) ^f
Iprodione	All	N/A	N/A	Active substance removed.
Isazophos	All	N/A	N/A	Active substance removed.
Mefentrifluconazole	Great Britain	0.01	No change	Not later than 90% petal fall.
Mefentrifluconazole	Switzerland	0.01	No change	Not later than 90% petal fall.
Mefentrifluconazole	Taiwan	0.5 ¹⁹ , 0.6 ⁷ , 1.0 ²⁰ , 0.01 ¹³	No change	Not later than 90% petal fall for mandarins and 14d PHI as registered for other citrus.
Mefentrifluconazole	USA	0.5 ¹⁹ , 0.6 ⁷ , 1.0 ²⁰ , None ¹³	No change	Not later than 90% petal fall for mandarins and 14d PHI as registered for other citrus.
Methiocarb	All	N/A	N/A	Active substance removed.
Propiconazole	SA	N/A	N/A	Not permitted. ^{SA1}
Spirodiclofen	SA	N/A	N/A	Not permitted. ^{SA1}
Spirotetramat	Japan	3.0	4.0 ^{7,13} , 0.7 ^{19,20}	No change.
Temephos	All	N/A	N/A	Active substance removed.
Terbufos	SA	N/A	N/A	Not permitted. ^{SA2}
Thiacloprid	SA	N/A	N/A	Not permitted. ^{SA1}
Triclopyr	USA	None	0.1 ⁷ , None ¹¹	No change.
Trichlorfon	All	N/A	N/A	Active substance removed.

NOTES

Numerical Superscripts:

- 1 fruit without peel/pulp
- 2 just oranges
- 3 exocarp of summer oranges
- 4 fruit (except exocarp of summer oranges)
- 5 just peel
- 6 except mandarin oranges
- 7 Oranges, sweet, sour
- 8 Citrus pulp, dried
- 9 Whole fruit
- 10 Clementines, soft citrus
- 11 Other citrus
- 12 Except summer oranges
- 13 Soft citrus
- 14 Pulp juice
- 15 No specific crop
- 16 Summer orange and soft citrus
- 17 Summer orange, pulp and peel
- 18 Summer orange, pulp
- 19 Only grapefruit
- 20 Only lemons
- 21 Soft citrus, limes and lemons
- 22 Grapefruit, oranges and pummelos.

“None” = no MRL, therefore fruit must be free of detectable residue. However, in the case of CODEX countries additional options may apply – refer to notes.

Alphabetical Superscripts:

a = CODEX (A): See Regions and Country Groupings Table below.

b = CODEX (B): See Regions and Country Groupings Table below.

c = USA has MRLs on citrus for Alpha-Cypermethrin (0.35 mg/kg) and Zeta-Cypermethrin (0.5 mg/kg for grapefruit, 0.3 mg/kg for lemons and oranges), but none for Cypermethrin, which means only Alpha and Zeta-Cypermethrin formulations are suitable for the USA.

d= Switzerland published a Carbendazim MRL of 0.1 mg/kg on all citrus types.

e= Switzerland published a Spirodiclofen MRL of 0.02 mg/kg on all citrus types.

EU1 = The EU notified their intention to lower the Ethephon MRL from 0.05 ppm to 0.01 ppm on all citrus types. If adopted, this MRL will apply from February 2025 (G/SPS/N/EU/801).

EU2 = The EU Fenpropathrin MRL is expected to be lowered to 0.01 mg/kg, and a 180d PHI will then apply. Only once the MRLs are published will CGA be in a position to indicate the implementation date.

EU3 = The European Commission have reconfirmed their intent to lower the EU Imidacloprid MRL to 0.01 mg/kg, but the procedure has been stalled. Only once the MRLs are published will CGA/CRI be in a position to indicate the implementation date.

EU4 = There is ongoing evaluation of the Dithiocarbamate MRLs in the EU. The MRL voting procedure has been postponed; amended MRLs will likely only apply in Europe from July-August 2026 at the earliest.

EU5 = The latest draft EU regulation for the Carbendazim MRLs include a value of 0.01 mg/kg for oranges, grapefruit and soft citrus. This MRL is likely to apply in Europe by September/October 2025, if adopted. No new MRL was proposed for lemons, the current MRL of 0.7 mg/kg for lemons remains in place.

EU6 = The EU intends to separate alpha-cypermethrin from the total cypermethrin residue definition and proposed an alpha-cypermethrin MRL of 0.08 mg/kg on all citrus types, and a cypermethrin MRL of 0.5 mg/kg on grapefruit and 0.3 mg/kg on other citrus. Should these MRLs be adopted, it will likely apply in Europe by Q2 of 2026.

g = Norway has a new Chlorantraniliprole MRL of 0.01 mg/kg. A PHI of not later than 90% petal fall applies.

l = See CRI Production Guideline for appropriate application techniques.

m = Great Britain includes England, Scotland and Wales. EU MRLs apply in Northern Ireland.

n = This active has obtained RSA usage authorization and has a provisional MRL. CGA is engaged in a process with the Registrar and Department of Health to confirm these MRLs.

o = The 2,4-D MRL in China is 0.1 mg/kg for oranges and soft citrus and 1.0 mg/kg for lemons and grapefruit. Packhouse managers need to determine practices in their situation which will result in compliance.

p = The 2,4-D MRL in South Korea is 0.15 mg/kg for oranges, soft citrus and grapefruit and 1.0 mg/kg for lemons. Packhouse managers need to determine practices in their situation which will result in compliance.

q = The Azoxystrobin MRL in China is 1.0 mg/kg for oranges and soft citrus. Packhouse managers need to determine practices in their situation which will result in compliance.

r = The GSO countries published a draft MRL regulation which includes a Fenpyroximate MRL of 0.5 mg/kg for grapefruit and 1.0 mg/kg for lemons, with none published for other citrus types. The public consultation phase ended in June 2025; it is unclear when the new MRLs will apply (G/SPS/N/ARE/176/Add.1).

SA1 = All registrations on citrus have lapsed under the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (No. 36 of 1947) and the use is no longer permitted.

SA2 = Despite existing registrations on citrus under Act 36 of 1947, South African Cabinet approved the prohibition of Terbufos uses.

T1 = Taiwan published a Fludioxonil MRL of 5.0 mg/kg for grapefruit and 7.0 mg/kg for other citrus. Packhouse managers need to determine practices in their situation which will result in compliant residues.

US1 = The USA Clothianidin MRL expires 31 December 2026.

Y = Pay special attention to the introductory notes on page one (3rd paragraph) dealing with lemons.

REGIONS AND COUNTRY GROUPINGS

Description	Countries
CODEX A (Where no national MRL is set, CODEX MRLs apply)	Africa [Angola, Benin, Botswana, Congo (Republic of), Gabon, Kenya, Madagascar, Mali, Mauritius*, Mauritania, Namibia, Senegal, Seychelles, Reunion*, Sudan*, Tanzania] Asia [China (Peoples Republic of), Hong Kong, Indonesia, Malaysia, Singapore, Thailand, Vietnam]
CODEX B (Where no national MRL is set, CODEX MRLs apply, or when no CODEX MRL is set RSA MRL apply)	Africa [Burkina Faso, Cameroon, Cote D'ivoire, Malawi, Nigeria, Tunisia, Uganda] Asia [Bangladesh, Sri Lanka, Philippines] Middle East [Azerbaijan, Iran, Jordan*, Pakistan] Other [Russian Federation, Georgia*]
Gulf State Organization (GSO)	Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates

* It has not been possible to re-confirm these requirements recently but presumably they still apply