
Schedule of Aircraft Disinsection Procedures

Spray Rates Listing



Australian Government

Australian Quarantine and Inspection Service

**Australian Quarantine and
Inspection Service**

and



**Ministry of Agriculture and Forestry
Biosecurity New Zealand**

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Disclaimer

- The requirements in this document are subject to change and it is the responsibility of the user to check they have the latest version. See www.aqis.gov.au or www.maf.govt.nz for the latest version.
- Links to other websites are provided for the user's convenience and do not constitute endorsement of all material at those sites, or any associated organisation, product or service.
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- Special arrangements permitting additional or alternative disinsection methods may override these procedures when directed by the Australian Director of Human Quarantine or the Director-General of Agriculture or Health in New Zealand (or their representatives).
- In addition please refer to Department of Agriculture, Fisheries and Forestry's general [Disclaimer](#) and the MAF Biosecurity New Zealand [Disclaimer](#).

Version Control

Updates will occur automatically on the AQIS and MAFBNZ websites and this page will summarise the amendments as they occur. The specific sections updated are described in the revision table below:

Version	Date	Author	Description of Change	Sections
-	1998-2008	AQIS/MAFBNZ	First issue	All
1.0	October 2009	Aimie Wilkinson and Doug Farr	Review	All

1 Introduction

This document has been prepared in cooperation between the Australian Quarantine and Inspection Service (AQIS) and the Ministry of Agriculture and Forestry Biosecurity New Zealand (MAFBNZ) for the regulation of disinsection arrangements of aircraft flying into Australia and New Zealand.

International aircraft are disinsected to help protect Australia and New Zealand from potential disease vectors and harmful pests. This listing has been jointly developed by AQIS and MAFBNZ incorporating the latest recommendations and practices from the World Health Organization.

This document must be read in conjunction with the [AQIS/MAFBNZ Schedule of Aircraft Disinsection Procedures](#).

The following websites contain information on aircraft disinsection products currently accepted by AQIS and MAFBNZ. Please liaise directly with one of these companies to acquire spray cans for your flight into Australia or New Zealand:

- Arandee Industries – www.arandee.co.nz
- Callington Haven – www.callingtonhaven.com
- PSA – www.psa-paris.com

Spray cans must contain the following active ingredients for each treatment type:

Treatment	Active Ingredients
Pre-embarkation	2% permethrin
Pre-flight	
Top of Descent	2% <i>d</i> -phenothrin
On-arrival	
Holds	2% <i>d</i> -phenothrin and 2% permethrin
Touch Ups	2% permethrin

2 How to Understand the Listing

- For Pre-embarkation disinsection (PED): use the green column only to determine the total amount of spray required for the cabin and the red column/s to determine the total amount required for the holds.
- For Pre-flight and Top of Descent disinsection (TOD): use the green and blue columns to determine the total amount of spray required for the cabin and the red column/s to determine the total amount required for the holds.
- Cabin spray amounts have been rounded up to the nearest 100g, except for small aircraft requiring significantly less than this amount.
- Rates apply to all aircraft series, unless otherwise stated. Please contact either [AQIS](#) or [MAFBNZ](#) for additional information, or if the aircraft requiring disinsection is not listed.
- Actual rate of application for cabin spray is based on one step per row per second. Wide bodied aircraft may require operator to use up to two cans per aisle.
- Cabin spray discharges at one gram/second; therefore each 100g can takes approximately 100 seconds to fully discharge. This discharge time can therefore be used as a measure to ensure accurate rates and even coverage.
- For larger aircraft, hold spray rates have been rounded up to the nearest 150g standard one shot hold aerosol.
- When amounts of less than 150g are specified for either hold, an applicator may choose to use smaller can sizes (when available) or use a 150g hold can with a multi-shot nozzle fitted and apply the spray manually for the required time. It is vital however, that the hold door/s only be opened the minimum amount for disinsection to occur. Partly used can/s must travel onboard the aircraft for verification on-arrival.

3 Spray Rates Listing

This listing has been divided into four aircraft types:

- Commercial Passenger Aircraft
- Small Jets, Regional and Private Aircraft
- Military Aircraft
- Freighter Aircraft

3.1 Commercial Passenger Aircraft

Aircraft Manufacturer and Model	PED Grams required 2% permethrin	TOD Grams required 2% d-phenothrin	Fwd Hold Grams required 2% d-phenothrin & 2% permethrin	Rear Hold Grams required 2% d-phenothrin & 2% permethrin
Airbus				
A300	200	200	150	150
A310	200	200	150	150
A318	70	70	15	25
A319	70	70	15	30
A320	100	100	25	40
A321	100	100	35	50
A330 – 200	200	200	150	150
A330 – 300	300	300	150	150
A340 – 200	200	200	150	150
A340 – 300/500	300	300	150	150
A340 – 600	300	300	300	300
A380	500	500	300	300
Boeing				
Boeing 727 – 200	70	70	30	30
Boeing 737 – 200	60	60	15	20
Boeing 737 – 300	60	60	20	25
Boeing 737 – 400	70	70	25	30
Boeing 737 – 500	60	60	15	25
Boeing 737 – 600	60	60	20	25
Boeing 737 – 700	70	70	15	25
Boeing 737 – 800	100	100	30	30
Boeing 737 – 900	100	100	30	30
Boeing 747	400	400	300	300
Boeing 747 SP	300	300	150	150
Boeing 757	100	100	40	40
Boeing 767	200	200	150	150
Boeing 777	300	300	300	300
Boeing 787 – Dreamliner	300	300	300	300

British Aerospace				
	50	50	20	20
Bae146 – 100/200/300			E&E bay & Hydraulics bay (adjacent to the holds) to each receive 5g of spray	
McDonnell Douglas				
DC 8 – Series 60/70	100	100	Most of these aircraft have four belly holds. Spray at 40g per hold	
DC9	50	50	150	150
DC10	200	200	150	150
MD11	200	200	150	150
MD80	100	100	150	150
MD90	100	100	150	150

3.2 Small Jets, Regional and Private Aircraft

- Where holds can be accessed internally, these have been added to the spray amount required for the cabin.
- Cabin spray delivery rates are one gram/second for both PED and TOD spray.
- Cabin spray rates have been rounded up to the nearest 5g.
- Pre-Spray may be used to spray any cargo and baggage holds.
- For small one/two seater aircraft (not mentioned), use discretionary amounts of spray where less than 5g of spray would be required.

Aircraft Manufacturer and Model	PED Grams required 2% permethrin	TOD Grams required 2% d-phenothrin	Fwd Hold Seconds required 2% permethrin	Rear Hold Seconds required 2% permethrin
Boeing				
Boeing 727 – 100	60	60	20	20
Boeing 737 – 100	60	60	30	40
BBJ	70	70	15 seconds	25 seconds
BBJ2	100	100	30 seconds	30 seconds
BBJ3	100	100	30 seconds	30 seconds
Aircraft Manufacturer and Model	PED Grams required 2% permethrin	TOD Grams required 2% d-phenothrin	External Holds Seconds required 2% permethrin	
Bombardier				
Challenger 300	10	10	5 seconds	
Challenger 600	15	15	n/a	
Challenger 601	15	15	n/a	
Challenger 605	15	15	n/a	
Challenger 850	25	25	n/a	
Challenger 5000	25	25	n/a	
Dash 8 (DHC-8) 100/200	15	15	n/a	
Dash 8 (DHC-8) 300	20	20	n/a	
Dash 8 (DHC-8) 400	30	30	n/a	
Global 5000	25	25	n/a	
Global Express	25	25	n/a	

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Learjet 24	5	5	n/a
Learjet 25	5	5	n/a
Learjet 31	5	5	n/a
Learjet 35	5	5	n/a
Learjet 36	5	5	n/a
Learjet 40	10	10	3 seconds
Learjet 45	10	10	3 seconds
Learjet 55	5	5	2 seconds
Learjet 60	10	10	2 seconds
Learjet 85	10	10	n/a
Cessna			
Citation I	5	5	2 seconds
Citation II/SP	5	5	2 seconds
Citation V	5	5	2 seconds
Citation VI	5	5	3 seconds
Citation VII	5	5	3 seconds
Citation X	10	10	4 seconds
Citation Bravo	5	5	2 seconds
Citation CJ1	5	5	3 seconds
Citation CJ2	5	5	3 seconds
Citation CJ3	5	5	3 seconds
Citation S/II	5	5	2 seconds
Citation Encore	5	5	2 seconds
Citation Encore +	5	5	2 seconds
Citation Excel	5	5	4 seconds
Citation Jet	5	5	3 seconds
Citation Mustang	5	5	3 seconds
Citation Sovereign	10	10	5 seconds
Citation S/II	5	5	2 seconds
Citation Ultra	5	5	2 seconds
Citation XLS	5	5	3 seconds
Dassault			
Falcon 10	5	5	2 seconds
Falcon 50	10	10	5 seconds
Falcon 100	5	5	2 seconds
Falcon 900	15	15	n/a
Eclipse			
Eclipse 400/500	5	5	2 seconds
Embraer			
Legacy	15	15	15 seconds
Legacy Shuttle	15	15	15 seconds
Phenom 100	5	5	2 seconds
Galaxy Aerospace			
Galaxy	10	10	5 seconds
Gulfstream			
GII/GIII	15	15	n/a
GIV	10	10	n/a
GV	20	20	n/a
G100	5	5	2 seconds

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G150	10	10	3 seconds
G200/G250	10	10	5 seconds
G350/G450/G500/G550	20	20	n/a
G650	25	25	n/a

Hawker Beechcraft			
Beechcraft 1900	10	10	n/a
Beechcraft Premier I	5	5	3 seconds
Hawker 400	5	5	2 seconds
Hawker 750	10	10	2 seconds
Hawker 800	10	10	2 seconds
Hawker 900XP	10	10	n/a
Hawker 4000	10	10	2 seconds each
King Air	5	5	2 seconds each (over wing lockers)
Honda			
Honda Jet	5	5	2 seconds
Israel Aircraft Industries			
Astra SP	5	5	3 seconds
Astra SPX	5	5	3 seconds
Westwind II	5	5	2 seconds
Raytheon (see Hawker Beechcraft)			

3.3 Military

- Cabin spray delivery rates are one gram/second for both PED and TOD spray.
- When helicopters and other aircraft are carried as freight, these aircraft must also be disinsected (use discretion for amounts required).
- For aircraft with tiny interiors such as fighter jets, use discretionary amounts of spray where less than 5g of spray would be required.

Aircraft Manufacturer and Model	PED Grams required 2% permethrin	TOD Grams required 2% d-phenothrin	Fwd Hold Grams required 2% d-phenothrin & 2% permethrin	Rear Hold Grams required 2% d-phenothrin & 2% permethrin
Boeing				
B757	100	100	40	40
C40 (B737-700)	70	100	15	25
Bombardier				
Learjet C21	5	5	n/a	n/a
EADS CASA/IPTN				
CASA CN235	20	20	n/a	n/a
Gulfstream				
C20 Gulfstream III/IV	15	15	n/a	n/a
C37 Gulfstream V	20	20	n/a	n/a
Hawker Beechcraft				
C-12	5	5	2 seconds each (over wing lockers)	
Ilyushin				
Ilyushin Il76	200	200	n/a	n/a
Lockheed				
C5 Galaxy	700 600 main deck	700 600 main deck	n/a	n/a

	100 upper deck	100 upper deck		
C17 Globemaster	200	200	n/a	n/a
C130 Hercules	100	100	n/a	n/a
C141 Starlifter	200	200	n/a	n/a
L-101 Tristar	200	200	150	150
P3 Orion	100	100	Spray Bombay via external hatch for 10 seconds using pre-spray	

3.4 Freighter

- When disinsecting the cargo hold on the main deck, extra care will be needed to ensure safe application, due to the higher concentration of combined active ingredients being used in hold formulation aerosols:
 - Ensure the aerosol/s are directed away from your body and walk away from area being disinsected.
 - Avoid breathing the mist.
 - Vacate the area on completion of spraying and allow at least five minutes for the spray to settle before re-entering.
- Both PED and TOD sprays are required for galley, toilets, passenger compartments and all areas not treated with hold spray when a PED agreement has not been entered into.
- As the amounts of PED and TOD spray may vary depending on the specific configuration of the freighter, apply these sprays by walking at the rate equivalent to one row or step per second.

Aircraft Manufacturer and Model	PED Grams required 2% permethrin	TOD Grams required 2% d-phenothrin	Main Deck Grams required 2% d-phenothrin & 2% permethrin	Rear Hold Grams required 2% d-phenothrin & 2% permethrin	Rear Hold Grams required 2% d-phenothrin & 2% permethrin
Airbus Freighters					
A300	<50	<50	300	150	40
A300 – 600	<50	<50	300	150	150
A300 – 600ST	<50	<50	750	Bulk Hold 25 seconds	
A310	<50	<50	300	150	150
A318	<50	<50	150	15	25
A319	<50	<50	150	15	30
A320	<50	<50	150	25	40
A321	<50	<50	150	35	50
A330 – 200	<50	<50	300	150	150
A330 – 300	<50	<50	450	150	150
A340 – 200	<50	<50	300	150	150
A340 – 300	<50	<50	450	150	150
A340 – 500	<50	<50	450	150	150
A340 – 600	<50	<50	450	300	300
A380	<50	<50	750	300	300
Antonov Freighters					
Antonov 124	<50	<50	750	n/a	n/a
Antonov 225	<50	<50	750	n/a	n/a
Boeing Freighters					

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Boeing 727 – 100	<50	<50	150	20	20
Boeing 727 – 200	<50	<50	150	30	30
Boeing 737	<50	<50	150	30	40
Boeing 747 – 100/ 200/300/400/800	<50	<50	600	300	300
Boeing 747 Combi	300 Passenger cabin	300 Passenger cabin	150	300	300
Boeing 757	<50	<50	150	40	40
Boeing 767	<50	<50	300	150	150
Boeing 777	<50	<50	450	300	300
Boeing 787	<50	<50	450	300	300
McDonnell Douglas Freighters					
DC 8 – Series 60/70	<50	<50	150	Most of these aircraft have four belly holds. Spray at 40g per hold	
MD11	<50	<50	300	150	150