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Operational Notice

New registration application and label requirements in relation to spray drift management

Purpose

This notice is issued to announce changes to previous label conventions for statements related to spray drift management and to explain how those changes should be implemented. These changes are an extension of the APVMA's spray drift policy framework *APVMA Operating Principles In Relation To Spray Drift Risk*¹ published in July 2008, its linked regulatory impact statement² and further supporting technical information published in September 2008³.

The broad changes explained in this notice came into use by the APVMA with the publication of its spray drift policy framework in July 2008. This notice sets out in greater detail how registrants and applicants should comply with those changes.

Note that the APVMA may require additional changes in future notices as new scientific information becomes available.

Date of Effect of this Operational Notice: 1 March 2010

Part A. New spray drift related application requirements

1. New requirement for registration applications to nominate a specific spray droplet size category that must appear on product labels

All registration applications for agricultural products that are subject to spray drift regulation (see APVMA OPERATING PRINCIPLES IN RELATION TO SPRAY DRIFT RISK, section 3.2, page 3) must include a nominated spray droplet size category for product application. The applicant must nominate the largest droplet size category that is still consistent with efficacy for the product.

(APVMA spray drift risk assessments are done on the basis of the nominated spray droplet size category. Applicants should be aware that when protective no-spray zones are found to be required for a product, smaller droplet size categories result in larger no-spray zones than do larger droplet size categories. Therefore it is in the applicant's interest to nominate the largest possible droplet size category that is consistent with product efficacy.)

Droplet size categories must be selected from the following set of standard categories found in the ASAE S572 Standard and in most nozzle manufacturer specifications.

VERY FINE • FINE • MEDIUM • COARSE • VERY COARSE • EXTREMELY COARSE

Only one category must be nominated. Terminology such as Fine to Medium or Medium to Coarse will not be accepted.

¹ http://www.apvma.gov.au/use_safely/spray_drift/op_principles.php

² http://www.apvma.gov.au/use_safely/docs/spraydrift_ris.pdf

³ http://www.apvma.gov.au/use_safely/spray_drift/scenarios.php



Stating droplet sizes or size ranges in microns will not be accepted for use on labels. (There is one exception that is contained in this document Part B, section 6 in the compliance instructions for COARSE. Option 2 in Section 3 for helicopter application necessarily refers to a micron value in the Micronair Droplet Size Prediction Model.)

2. How the nominated droplet size category will be used

The specified droplet size category will be used by the APVMA to complete its spray drift risk assessment. The same category will then be placed on the product label in a spray drift restraint statement that prohibits chemical users from using any smaller droplet size category in spray applications. (See Part B, sections 2 and 3 for how the statements must be worded.)

3. Exceptional Cases

In almost all cases there should be only one droplet size category on the label for both ground and aerial application. However, in exceptional cases supported by satisfactory scientific data or argument, the APVMA may allow aerial application to have a different droplet size category than ground application.

In such cases, the normal single label restraint statement for droplet size will need to be modified to be two statements – one version for aerial and another for ground application. The wording of the two statements should begin as follows.

DO NOT apply with AIRCRAFT with smaller than.....

DO NOT apply with GROUND sprayers with smaller than.....

Refer to Part B, section 3 below for the correct wording to complete the statements.

4. New requirement for registration applications to inform the APVMA about use of aerial application

All registration applications for agricultural products that are subject to spray drift regulation (see APVMA OPERATING PRINCIPLES IN RELATION TO SPRAY DRIFT RISK, section 3.2, page 3) must inform the APVMA whether or not aerial application of the product is intended and if so, whether it is to be with fixed-wing aircraft or with helicopter or both. The APVMA will then undertake the appropriate spray drift risk assessments.

If the applicant informs the APVMA that it does not support application of the product by air or that it does not support application with fixed-wing aircraft or with helicopter, then the APVMA will require one of the following restraint statements on the label as appropriate.

DO NOT apply with aircraft

DO NOT apply with fixed-wing aircraft

DO NOT apply with helicopter

Each of these is a global restraint statement and when needed must be located at the beginning of the general RESTRAINTS section of the label.



Part B. Required label format and wording for spray drift restraint statements and no-spray zones

1. Label placement of spray drift restraints and no-spray zones

Spray drift restraint statements must be placed near the beginning of the DIRECTIONS FOR USE section of the label immediately following any existing general RESTRAINTS. They shall be placed under the title – SPRAY DRIFT RESTRAINTS.

When a product requires no-spray zones, restraint statements and tables for no-spray zones must be placed immediately following the Spray Drift Restraints section and under the title – MANDATORY NO-SPRAY ZONES.

Refer to the general example label under Part B, section 5 below.

2. Wording for Spray Drift Restraints and No-Spray Zones

Specific wording for spray drift restraints and no-spray zone restraint statements is presented in this notice and must be followed on all relevant labels. These statements have been developed in consultation with State and Territory enforcement authorities and their wording must be maintained exactly to ensure they can be enforced.

All products that require one or more no-spray zones will also require at least four spray drift restraint statements that specify the required droplet size for application, specify wind speed limits, prohibit spraying during temperature inversion conditions and specify how required application records must be kept. Refer to the example label under Part B, section 5 for the exact wording of these four statements.

Note that the wind speed restraint statement in the example in section 5 specifies 3 to 20 km/hr. Most products will use this restraint, but some such as products in the 2,4-D family and other phenoxy herbicides will have an upper wind speed limit of 15 km/hr.

Note further that the APVMA may require additional spray drift restraints for higher risk products or products with special properties. These will be dealt with on a case-by-case basis.

Products that do not require any no-spray zones may have a reduced set of spray drift restraints depending on the risk assessment. Such products will be considered on a case-by-case basis.

3. Additional information for the droplet size restraint statement

- (a) The label spray drift restraint statement that requires a specific droplet size category exists in two versions. One version of the wording is for COARSE, VERY COARSE and EXTREMELY COARSE droplet size categories. An example of this version is included in the example label in section 5 and also below in this section under (c). In addition, this version **always** requires a separate instruction module to accompany it on the label but the module must be located elsewhere under the GENERAL INSTRUCTIONS section of the label. This separate instruction module explains to users how they must comply with the COARSE or larger droplet size requirement. This instruction module is presented in section 6 below, and its wording must be exactly preserved on product labels.
- (b) The second version of the droplet size restraint statement is for products that require a MEDIUM, FINE or VERY FINE droplet size category. This version of the statement is simpler and **does not** require an additional set of instructions to accompany it elsewhere on the label.
- (c) An example of each version is presented below. For both examples, wording must be preserved exactly as shown apart from variation of the category itself.



Example of wording for COARSE or larger droplet size categories - this example for COARSE

DO NOT apply with spray droplets smaller than a **COARSE** spray droplet size category according to “APVMA Compliance Instructions for Mandatory COARSE or Larger Droplet Size Categories” located under this title in the GENERAL INSTRUCTIONS section of this label.

Example of wording for MEDIUM or smaller droplet size categories – this example for MEDIUM

DO NOT apply with spray droplets smaller than a **MEDIUM** spray droplet size category according to nozzle manufacturer specifications that refer to the ASAE S572 Standard or the BCPC Guideline.

4. Additional information for mandatory no-spray zones

Whether a product requires a no-spray zone at all, or one, or several depends on its individual risk assessment. A no-spray zone might be required to protect human health, the aquatic environment, the terrestrial environment or Australia’s international trade (residue issues). The wording of no-spray zone restraint statements must exactly follow the wording in the example label in section 5 below.

Each of the no-spray zone restraint statements exists in two versions – one for labels that allow aerial application and the other for labels that only allow ground application. Both versions for each are presented in the example label in section 5 below.

The example label in section 5 also illustrates how the no-spray zone distances are to be presented both for aerial and non-aerial labels. The wording in the tables for aerial applications must be followed exactly apart from the various no-spray zone distances that will be different from product to product.

DO NOT apply if there are aquatic and wetland areas including aquacultural ponds, surface streams and rivers downwind from the application area and within the **mandatory no-spray zones** shown in Table 2 below.

Table 2 – No-Spray Zones for Protection of the Aquatic Environment		
FOR AERIAL APPLICATION		
Wind Speed Range at Time of Application	Downwind Mandatory No-Spray Zone	
	Fixed-Wing	Helicopter
from 3 to 8 kilometres per hour	XXX metres	MMM metres
from 8 to 14 kilometres per hour	YYY metres	PPP metres
from 14 to 20 kilometres per hour	ZZZ metres	QQQ metres
FOR GROUND APPLICATION		
from 3 to 20 kilometres per hour	WWW metres	

DO NOT apply if there are sensitive crops, gardens, landscaping vegetation, protected native vegetation or protected animal habitat downwind from the application area and within the **mandatory no-spray zones** shown in Table 3 below.

Table 3 – No-Spray Zones for Protection of the Terrestrial Environment		
FOR AERIAL APPLICATION		
Wind Speed Range at Time of Application	Downwind Mandatory No-Spray Zone	
	Fixed-Wing	Helicopter
from 3 to 8 kilometres per hour	XXX metres	MMM metres
from 8 to 14 kilometres per hour	YYY metres	PPP metres
from 14 to 20 kilometres per hour	ZZZ metres	QQQ metres
FOR GROUND APPLICATION		
from 3 to 20 kilometres per hour	WWW metres	

DO NOT apply if there are livestock, pasture or any land that is producing feed for livestock downwind from the application area and within the **mandatory no-spray zones** shown in Table 4 below.

Table 4 – No-Spray Zones for Protection of International Trade		
FOR AERIAL APPLICATION		
Wind Speed Range at Time of Application	Downwind Mandatory No-Spray Zone	
	Fixed-Wing	Helicopter
from 3 to 8 kilometres per hour	XXX metres	MMM metres
from 8 to 14 kilometres per hour	YYY metres	PPP metres
from 14 to 20 kilometres per hour	ZZZ metres	QQQ metres
FOR GROUND APPLICATION		
from 3 to 20 kilometres per hour	WWW metres	

NOTE: if there is no aerial application allowed for a product, that product's mandatory no-spray zone statements are simpler as shown in the examples below.

MANDATORY NO-SPRAY ZONES

DO NOT apply if there are people, structures that people occupy or parks and recreation areas within **xxx metres** downwind from the application area.

DO NOT apply if there are aquatic and wetland areas including aquacultural ponds, surface streams and rivers within **yyy metres** downwind from the application area.

DO NOT apply if there are sensitive crops, gardens, landscaping vegetation, protected native vegetation or protected animal habitat within **zzz metres** downwind from the application area.

DO NOT apply if there are livestock, pasture or any land that is producing feed for livestock within **uuu metres** downwind from the application area.

NOTE: following the Mandatory No-Spray Zone section, the normal crop directions begin.



Australian Government
**Australian Pesticides and
Veterinary Medicines Authority**

6. Additional module of instructions that must appear on all labels that also carry a spray drift restraint that requires a COARSE or larger droplet size category

This set of instructions must be located under the GENERAL INSTRUCTIONS section of the label as indicated by the spray drift restraint for COARSE or larger droplet size categories that also appears on the label. It must appear with its full title as shown below to be consistent with the wording in its linked spray drift restraint statement.

The entire set of instructions with title is set out on the following pages. The wording of the instructions must be preserved on the label exactly as shown.

APVMA Compliance Instructions for Mandatory COARSE or Larger Droplet Size Categories

Important Information

These instructions inform users of this chemical product how to lawfully comply with the requirement of a COARSE or larger spray droplet size category for spray application.

Spray droplet size categories are defined in the ASAE S572 Standard (newer name may also be shown as ASABE) or the BCPC guideline. Nozzle manufacturers may refer to one or both to identify droplet size categories, but for a nozzle to comply with this requirement, the manufacturer must refer to at least one.

In the following instructions, Section 1 is for ground application and Sections 2 and 3 are for aerial application.

Complying with the label requirement to use a specific droplet size category means using the correct nozzle that will deliver that droplet size category under the spray operation conditions being used. The APVMA has approved only the following specific methods for choosing the correct nozzle. Use one of the methods specified in these instructions to select a correct nozzle to deliver a COARSE or larger droplet size category.

SECTION 1 Instructions for **Ground Application – for COARSE droplet size or larger categories**

Mandatory Instructions for Ground Applications

USE ONLY nozzles that the nozzles' manufacturer has rated to deliver a COARSE, a VERY COARSE or an EXTREMELY COARSE droplet size category as referenced to ASAE S572 or BCPC. Choose a nozzle specified to provide the droplet size category required in the label Spray Drift Restraints.

DO NOT use a higher spray system pressure than the maximum the manufacturer specifies for the selected nozzle to deliver the droplet size category required in the label Spray Drift Restraint.

SECTION 2 Instructions for **Fixed-Wing Aerial Application – for COARSE droplet size or larger categories**

Instructions in this section apply to fixed-wing aerial application of products for which the label Spray Drift Restraint requires a COARSE or a VERY COARSE spray droplet category.

Nozzle choices must be made using Option 1, 2 or 3 below. Option 1 nozzles are limited to a maximum aircraft speed of 110 knots and are for COARSE droplets only. Option 2 nozzles are limited to a maximum aircraft speed of 120 knots and are also for COARSE droplets only. Option 3 nozzles have their use conditions (maximum airspeed, nozzle spray angle, product used, orifice size, spray system pressure) specified in the APVMA Approved AAAA Nozzle Calculator (described in Option 3). Depending on those use conditions, the calculator can identify a correct nozzle for either a COARSE or a VERY COARSE spray droplet category. (Note that to use Option 3, aerial applicators must contact the Aerial Agricultural Association of Australia for access to their approved nozzle calculator.)

Mandatory Instructions for Fixed-Wing Aerial Applications

Option 1

For up to a maximum aircraft speed of 110 knots and a COARSE droplet size category, USE ONLY solid stream 0° nozzles with orifice diameter greater than or equal to 1.5 mm and oriented straight back to the flight direction. USE ONLY a spray system pressure greater than or equal to 3 bar.

OR

Mandatory Instructions for Fixed-Wing Aerial Applications (continued)

Option 2

For up to a maximum aircraft speed of 120 knots and a COARSE droplet size category, USE ONLY narrow angle flat fan nozzles with spray angle less than or equal to 40° and oriented straight back to the flight direction. USE ONLY a spray system pressure greater than or equal to 4 bar.

OR

Mandatory Instructions for Fixed-Wing Aerial Applications (continued)

Option 3

USE ONLY nozzles rated by the APVMA Approved AAAA Nozzle Calculator as COARSE or VERY COARSE to comply with a product label's requirement for a COARSE or a VERY COARSE spray droplet size category. When using the AAAA Nozzle Calculator, aerial applicators **must** also follow the additional instructions below in (a), (b) and (c).

- (a) Aerial applicators **must only use** the droplet size category given in the nozzle calculator at the $D_{V(0.1)}$ position to identify a nozzle to comply with the required spray droplet category. The categories shown at the $D_{V(0.5)}$ and the $D_{V(0.9)}$ positions in the calculator **must not be used** for making a nozzle selection.
- (b) Aerial applicators **must not apply** at airspeeds greater than that speed used to select the nozzle. If an application airspeed slower than 100 knots (the minimum speed specified in the nozzle calculator) is planned, a nozzle identified as COARSE or VERY COARSE at 100 knots can also be used at slower airspeeds provided that the nozzle angle and system pressure are kept the same.
- (c) When a particular pesticide product is chosen within the nozzle calculator as one of the conditions set to select a nozzle, then aerial applicators **must use** that specific pesticide product with that nozzle. When a pesticide product is planned for use and is not available as a choice within the nozzle calculator, aerial applicators **must use** the category "Other Product" in the calculator to set the condition for selecting a nozzle.

Note – contact the Aerial Agricultural Association of Australia for information on how to obtain access to the APVMA Approved AAAA Nozzle Calculator –

<http://www.aerialag.com.au/site/default.asp>

SECTION 3 Instructions for **Helicopter Aerial Application – for COARSE droplet size or larger categories**

Instructions in this section apply to helicopter application of products where the label Spray Drift Restraint requires a **COARSE**, a **VERY COARSE** or an **EXTREMELY COARSE** spray droplet category.

Nozzle choices must be made using Option 1, 2 or 3 below.

Mandatory Instructions for Helicopter Aerial Application

Option 1

For helicopter applications requiring a COARSE or a VERY COARSE spray droplet size category, **USE ONLY** nozzles selected with the methods previously specified for fixed-wing aircraft in Section 2.

OR

Mandatory Instructions for Helicopter Aerial Application (continued)

Option 2

When using Micronair controlled droplet applicators (Micron Sprayers Ltd), **USE ONLY** nozzles selected with the Micronair Droplet Size Prediction Models designed for Micronair products (and located on the company website) to choose a nozzle to satisfy the label requirement for a COARSE droplet size category. **Important – to qualify for the COARSE category, the $D_{V(0.1)}$ value must be greater than 156 microns.** Adjust parameters as necessary such as lowering the atomizer rotation rate in order to achieve a $D_{V(0.1)}$ value greater than 156 microns.

OR

Mandatory Instructions for Helicopter Aerial Application (continued)

Option 3

When using Accu-Flo nozzles (Bishop Equipment Mfg Inc), **USE ONLY** nozzles rated according to the manufacturer's instructions to select the correct nozzle to apply a COARSE, a VERY COARSE or an EXTREMELY COARSE droplet size category to satisfy the label requirement for one of those specific droplet size categories.