

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Affinity[®] 400 DF

HERBICIDE

ACTIVE CONSTITUENT: 400 g/kg CARFENTRAZONE-ETHYL



For the control of certain annual broadleaf weeds in
winter cereals and pyrethrum as per the Directions For Use Table

IMPORTANT: READ THE ATTACHED LEAFLET BEFORE USE

NET CONTENTS : 2 kg

FMC[®] FMC Australasia Pty Ltd

Unit 6A, 9 Archimedes Place
Murarrie Qld 4172
Contact Number 1800 066 355

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

Spillage - In case of spillage, confine spilled product with material such as sand or clay. Dispose of waste as indicated below or according to the Australian Standard 2507 - Storage and Handling of Pesticides. DO NOT allow spilled product to enter sewers, drains, creeks or any other waterways. Keep out animals and unprotected persons. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with a suitable solution (ie organic solvent, detergent, bleach or caustic) and add the solution to the drums of wastes already collected. Label for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities.

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point.

If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SAFETY DIRECTIONS

Will irritate the eyes and skin. Avoid contact with eyes and skin. When opening the container, preparing spray and using the prepared spray wear elbow-length PVC gloves and face shield or goggles. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26.

MATERIAL SAFETY DATA SHEET

Additional information is listed in the **MSDS FMC/AFF/1**, which is available from the supplier.

WARRANTY

FMC makes no warranty expressed or implied, concerning the use of this product other than that indicated on the label. Except as so warranted the product is sold as is. Buyer and user assume all risk of use and/or handling and/or storage of this material when such use and/or handling and/or storage is contrary to label instructions.

TRADEMARKS

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In case of emergency: Phone 1800 033 498

BN:

DOM:

APVMA Approval No. : 51555/2KG/1205

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DIRECTIONS FOR USE

Restraints :

DO NOT tank mix Affinity 400 DF with any wetter, crop oil concentrates or blended oil/surfactant adjuvants (See compatibility section).

DO NOT tank mix MCPA LVE with Affinity 400 DF.

DO NOT tank mix Affinity 400 DF treatments with selective grass herbicides.

DO NOT apply the tank mix of Affinity 400 DF + MCPA amine before the three leaf stage of cereals.

DO NOT apply to cereals under sown with legumes.

DO NOT apply Affinity 400 DF to winter cereals by aircraft.

CROP	TARGET WEED	STATE	RATE/ha Affinity 400 DF + MCPA amine (500g/L)	WEED STAGE	CRITICAL COMMENTS
Winter cereals (wheat, barley, oats, triticale)	Ball mustard <i>Neslia paniculata</i>	All States	50g + 500mL	2 leaf to 6 leaf	General Apply as a post-emergence treatment for the control of small actively growing weeds. Always tank mix with MCPA amine. The MCPA amine rate recommended on this label is a minimal rate required for control. Refer to the specific MCPA amine label for higher use rates. Under wet/ good growing conditions some weed regrowth may occur eg. Bifora. A follow up application of a suitable herbicide ie. 2,4-D amine may be required as part of a good weed management strategy. Refer to General Instructions and Compatibility directions for further application details.
	Bedstraw/Cleavers <i>Galium tricornutum</i>		60g + 500mL	2 leaf to 8 leaf	
	50g + 500mL		1 to 10 whorls		
	Bifora <i>Bifora testiculata</i>		60g + 500mL	2 leaf to 6 leaf	
	Canola <i>Brassica napus</i> <i>B. campestris</i>		50g + 500mL 60g + 500mL	2 leaf to 6 leaf 2 leaf to 8 leaf	
	Capeweed <i>Arctotheca calendula</i>		50g + 500mL	2 leaf to 4 leaf	
	Climbing buckwheat <i>Fallopia convolvulus</i>		50g + 500mL	2 leaf to 6 leaf	
	Crassula <i>Crassula sieberana</i>		50g + 500mL	2 leaf to 8 leaf	
	Fumitory (Dense flower) <i>Fumaria densiflora</i>		50g + 500mL	2 leaf to 8 leaf	
	Indian hedge mustard <i>Sisymbrium orientale</i>		50g + 500mL	2 leaf to 8 leaf	
	Ivy-leaf speedwell <i>Veronica hederifolia</i>		50g + 500mL 60g + 500mL	2 leaf to 4 leaf 2 leaf to 6 leaf	
	Long storksbill <i>Erodium botrys</i>		50g + 500mL 60g + 500mL	2 leaf to 4 leaf 2 leaf to 6 leaf	
	Marshmallow <i>Malva parviflora</i>		40g + 500mL 50g + 500mL 60g + 500mL	2 leaf to 4 leaf 2 leaf to 6 leaf 2 leaf to 8 leaf	
	Musk weed <i>Myagrum perfoliatum</i>		50g + 500mL 60g + 500mL	2 leaf to 4 leaf 2 leaf to 6 leaf	
	Prickly lettuce <i>Lactuca serriola</i>		50g + 500mL	2 leaf to 8 leaf	
	Rough poppy <i>Papaver hybridum</i>		50g + 500mL	2 leaf to 8 leaf	
	Sheepweed / Corn gromwell / White iron weed <i>Buglossoides arvensis</i>		50g + 500mL 60g + 500mL	2 leaf to 6 leaf 2 leaf to 8 leaf	
	Shepherd's purse <i>Capsella bursa- pastoris</i>		50g + 500mL	2 leaf to 8 leaf	
	Sowthistle <i>Sonchus oleraceus</i>		50g + 500mL	2 leaf to 6 leaf	
	Spiny emex <i>Emex australis</i>		50g + 500mL	2 leaf to 4 leaf	
Stinging (dwarf) nettle <i>Urtica urens</i>	50g + 500mL	2 leaf to 6 leaf, prior to branching			
Sub. clover <i>Trifolium subterraneum</i>	40g + 500mL 50g + 500mL 60g + 500mL	2 leaf to 4 leaf 2 leaf to 6 leaf 2 leaf to 10 leaf			

	Toad rush <i>Juncus bufonius</i>		50g + 500mL	2 leaf to 4 leaf	
	Turnip weed <i>Rapistrum rugosum</i>		60g + 500mL	2 leaf to 6 leaf	
			50g + 500mL	2 leaf to 8 leaf	
	Volunteer pulses		50g + 500mL + Lontrel* 100mL OR + Banvel* 500mL	2 leaf to 5 nodes	
	- Faba beans <i>Vicia faba</i>			2 leaf to 5 nodes	
	- Field peas <i>Pisum sativum</i>			2 leaf to 6 leaf	
	- Lentils <i>Lens culinaris</i>				
	- Lupins <i>Lupinus angustifolius</i>		40g + 500mL 50g + 500mL	2 leaf to 4 leaf 2 leaf to 8 leaf	
	- Vetch <i>Vicia spp</i>		50g + 500mL + Lontrel* 100mL	2 leaf to 4 branch	
	Wild radish <i>Raphanus raphanistrum</i>	WA only	40g + 500mL 50g + 500mL 60g + 500mL	Majority at 2 leaf Majority at 4 leaf Majority at 6 leaf	
		SA, Vic, NSW, Qld only	60g + 500mL	2 leaf to 4 leaf	
	Wild turnip <i>Brassica tournefortii</i>	All States	50g + 500mL	2 leaf to 6 leaf	
	Wireweed <i>Polygonum aviculare</i>		50g + 500mL	2 leaf to 4 leaf	
	Pyrethrum	Tas. only	60g	2 leaf to 4 leaf	
	New crops - from 4 true leaf onwards			2 to 6 whorls	
	Established crops - post harvest			10 – 15 cm high	
	Blackberry nightshade <i>Solanum nigrum</i>				To improve weed spectrum Affinity 400 DF may be tank mixed or applied as a sequential application with other pyrethrum herbicides. Do not apply within 10 days of other herbicides.
	Cleavers <i>Galium aparine</i>				
	Volunteer potatoes <i>Solanum tuberosum</i>				

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

WITHHOLDING PERIODS

Grazing: DO NOT ALLOW STOCK TO GRAZE TREATED AREAS FOR 14 DAYS AFTER APPLICATION.

Crop Harvest: NOT REQUIRED WHEN USED AS DIRECTED.

GENERAL INSTRUCTIONS

Affinity 400 DF Herbicide is an early post-emergence herbicide for the control of certain broadleaf weeds in winter cereals and pyrethrum. Affinity 400 DF is a fast acting contact herbicide and controls weeds through a process of membrane disruption. The foliar uptake of Affinity 400 DF is rapid and plant desiccation can occur within 1 to 4 days of application. Application of Affinity 400 DF should target small actively growing weeds. Subsequent germinations will not be controlled. Affinity 400 DF should always be tank mixed with MCPA amine in winter cereals.

SYMPTOMS

Affinity 400 DF is rapidly absorbed through the foliage of plants. Within a few hours following application, the foliage of susceptible weeds show signs of desiccation, and in subsequent days necrosis and death of the plant. Due to environmental conditions and certain spray tank additives, some herbicidal symptoms may appear on the crop in the form of leaf spotting. However, the crop recovers quickly, usually within two to three weeks of treatment.

Extremes in environmental conditions eg. temperature and moisture, soil conditions and/or cultural practices may affect the activity of Affinity 400 DF. Under warm moist conditions, herbicide symptoms may be accelerated. While under very dry conditions, the expression of herbicidal symptoms is delayed, and weeds hardened off by drought are less susceptible to Affinity 400 DF.

COMPATIBILITY

Winter cereals: Affinity 400 DF should always be tank mixed with formulations of MCPA **amine** (500g/L) eg. Thistle Killen® to broaden the weed control spectrum compared to either product applied alone. Do not tank mix Affinity 400 DF with MCPA **LVE** formulations or ester formulations of other herbicides or with wetters and oil adjuvants, as excessive crop injury may occur.

Affinity 400 DF plus MCPA amine is compatible with Lontrel®, Banvel® 200, Cadence®, EDTA chelate formulations of trace elements eg Supa Copper, Supa Mang and Supa Zinc from Agrichem Manufacturing.

Pyrethrum: Affinity 400 DF should be applied on its own, tank mixed with or used in a sequence with other herbicides used in pyrethrum as advised by Botanical Resources Australia.

Annual Grass (wild oat, ryegrass etc.) Control

Affinity 400 DF should not be mixed with selective grass herbicides as grass weed control is significantly reduced and excessive crop injury may occur. Increased crop injury is caused by the crop oil concentrates and oil/surfactant blends used with these grass herbicides. Instead, allow a 10 to 14 day interval between separate broadleaf and grass herbicide applications.

Use of Surfactant/ Wetting Agents/ Oil Adjuvants

Do not add wetters, spray oils or oil/surfactant adjuvants to the tank mix of Affinity 400 DF plus MCPA. The addition of wetters, oils and oil/surfactant blends will greatly increase crop injury without any significant improvement in weed control.

Prior to applying Affinity 400 DF clean the spray tank to remove any wetters or adjuvants remaining from previous spray operations otherwise crop injury may result.

RESISTANT WEEDS WARNING

GROUP	G	HERBICIDE
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Affinity 400 DF Herbicide is a member of the Aryl triazolinone group of herbicides. Its mode of action is through a process of membrane disruption, which is initiated by the inhibition of the enzyme protoporphyrinogen oxidase. This inhibition interferes with the chlorophyll biosynthetic pathway. For weed resistance management Affinity 400 DF is a Group G herbicide.

Some naturally occurring weed biotypes resistant to Affinity 400 DF and other herbicides that inhibit the enzyme protoporphyrinogen oxidase may exist through normal genetic variability in any weed population and increase if these herbicides are used repeatedly. These resistant weeds will not be controlled by Affinity 400 DF or other herbicides that inhibit the enzyme protoporphyrinogen oxidase.

Since the occurrence of resistant weeds is difficult to detect prior to use, FMC Australasia Pty Ltd accepts no liability for any losses that may result from the failure of Affinity 400 DF to control resistant weeds.

TIMING

Application should be made to small, actively growing weeds generally less than 6 to 8 leaf in stage - refer to growth stages for specific weeds. As Affinity 400 DF is a contact herbicide, best control is achieved when weeds are exposed and are not shielded by other weeds and/or the crop. Ideally crops should be at the 3 leaf to early/mid tillering stage (Zadok's code 13 to 25), prior to crop canopy closure.

MIXING

Add half the required volume of water to spray tank and start agitation. Add the measured amount of Affinity 400 DF next and ensure sufficient time is allowed for complete dispersion of the granules. In cereals add the required volume of MCPA amine next then add buffering agent if required then the balance of water to tank. Maintain good agitation at all times until spraying is completed.

The spray solution can be buffered to within the range of pH 5 to pH 8. Do not use with tank additives that alter the pH of the spray solution below pH 5 or above pH 8 or that contain surfactants.

APPLICATION

Apply Affinity 400 DF (plus MCPA amine in cereals) as a broadcast application. Use conventional boom sprayers with either mechanical or by-pass agitation. Spray equipment should be properly calibrated to ensure correct application. Use a spray volume of 50 to 150 litres per hectare. Experience has shown that increasing spray volumes from 50L/ha to 100 L /ha improves weed control. This is particularly important on bifora and other hard to control weeds. Use the higher volume if weed infestation is heavy or the crop cover is dense.

Use single orifice flat fan nozzles such as Spraying Systems TeeJet® 11001, 110015, 11002 or equivalent sizes from other manufacturers or Spraying Systems TwinJet® twin flat spray tips TJ60-11002, TJ60-11003 or TJ60-11004 or equivalent sizes from other manufacturers. Do not use 110-03 or bigger single orifice nozzles or TJ11006 or bigger twin orifice nozzles with Affinity 400 DF. Do not use floodjet, low drift or air inducted nozzles, boomless jets or misters or controlled droplet application equipment. Do not apply Affinity 400 DF to winter cereals by aircraft. Always ensure that agitation is continued until spraying is completed even if the sprayer is stopped for brief periods of time.

MCPA amine: it is important to follow the MCPA label directions for use in relation to weed and crop size and application timing. The MCPA amine use rate recommended for tank mix with Affinity 400 DF in cereals on this label is a minimum rate required for control. Higher MCPA amine rates may be used in accordance with the specific MCPA amine label to improve results in difficult situations.

The best application conditions are when soil is moist, weather fine and rain unlikely within 6 hours.

Extremes in environmental conditions eg. temperature and moisture, soil conditions and/or cultural practices may affect the activity of Affinity 400 DF. Under warm moist conditions, herbicide symptoms may be accelerated. While under very dry conditions, the expression of herbicidal symptoms is delayed, and weeds hardened off by drought are less susceptible to Affinity 400 DF.

SPRAYER CLEAN OUT

After spraying Affinity 400 DF and before using the sprayer in sensitive crops such as faba beans, canola, lentils etc. the sprayer must be thoroughly cleaned using the following procedure. (In addition users must take appropriate steps to ensure proper equipment clean out for any other products mixed with Affinity 400 DF as explained on the other product labels).

1. Drain sprayer tank, hoses, and spray boom and thoroughly rinse the inside of the sprayer tank free of visible sediment and residues with clean water. Remove and clean all filters and nozzle strainers of any sediment and residues. Flush through sprayer hoses, boom and nozzles. Pay particular attention to dead spots in the system eg. boom ends and in the tank.
2. Fill the tank ½ full with clean water and add an alkaline detergent eg. "OMO" or "SPREE" at 100g/100L, to the spray tank to increase the pH of the solution to 10 or above. Fill the tank to capacity and operate the sprayer for a minimum of 15 minutes to flush hoses, boom and nozzles.
3. Drain the sprayer system. Rinse the tank with clean water and flush through the hoses, boom and nozzles. Remove and check all filters and nozzle strainers, clean if necessary.

A good boom hygiene practice is to follow the use of Affinity 400 DF with a cereal grass herbicide and an oil adjuvant in an alternate cereal crop, before spraying a sensitive crop.

Following use of Affinity 400 DF in cereals and decontamination of the spray tank but before spraying sensitive crops such as faba beans, canola, lentils etc an added precaution is to spray out the boom lines on a fence line or waste area. This is also recommended if the sprayer has been left standing for some time. This will remove any Affinity 400 DF which may have been absorbed into the boom lines over time.

CROP ROTATION RECOMMENDATIONS

Affinity 400 DF Herbicide does not provide residual activity, therefore no crop rotational restrictions apply.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

Do not apply under weather conditions, or from spray equipment, which may cause spray drift onto nearby susceptible plants, adjacent crops, or pastures, or onto wetlands, waterbodies or watercourses.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Highly toxic to algae and aquatic plants. DO NOT contaminate streams, rivers or waterways with Affinity 400 DF or used container.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

Spillage - In case of spillage, confine spilled product with material such as sand or clay. Dispose of waste as indicated below or according to the Australian Standard 2507 - Storage and Handling of Pesticides. DO NOT allow spilled product to enter sewers, drains, creeks or any other waterways.

Keep out animals and unprotected persons. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with a suitable solution (ie organic solvent, detergent, bleach or caustic) and add the solution to the drums of wastes already collected. Label for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities.

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FIRST AID

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TRADEMARKS

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® Thistle Killem is a Registered Trademark of Nufarm Technologies USA Pty Ltd.

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