

READ SAFETY DIRECTIONS BEFORE OPENING OR USING



# Artillery<sup>®</sup> Herbicide

ACTIVE CONSTITUENT: **400 g/kg CARFENTRAZONE-ETHYL**

GROUP **G** HERBICIDE

For the control of certain annual broadleaf weeds in winter cereals and pyrethrum. For improvement in the control of marshmallow and certain other broadleaf weeds prior to establishment of crops, fallows or forest plantations, in commercial, industrial and public service areas, around agricultural buildings and yards, in treefruits, nuts, grapevines in tank mixture with knockdown herbicides; control of marshmallow and annual nettles in grass pastures and rough grass/turf areas; control of volunteer cotton seedlings including Roundup Ready\* cotton and desiccation of cotton re-growth as per the Directions for Use Table



# ADAMA

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CONTENTS: 1 kg, 2kg

#### DIRECTIONS FOR USE

##### Restrictions:

**DO NOT** tank mix ARTILLERY with any wetter, crop oil concentrates or blended oil/surfactant adjuvants when spraying winter cereals or pyrethrum (See compatibility section).

**DO NOT** tank mix MCPA LVE with ARTILLERY.

**DO NOT** tank mix ARTILLERY treatments with selective grass herbicides.

**DO NOT** apply the tank mix of ARTILLERY + MCPA amine before the three leaf stage of cereals.

**DO NOT** apply to cereals under sown with legumes.

**DO NOT** apply ARTILLERY by aircraft except for cotton desiccation.

TABLE 1. WINTER CEREALS AND PYRETHRUM

CROP OR SITUATION	TARGET WEED	STATE	RATE ARTILLERY + MCPA amine (500 g/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	<b>General</b> 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 e.g. Bifora. A follow up application of a suitable herbicide i.e. 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>		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	

TABLE 1. WINTER CEREALS AND PYRETHRUM - continued

CROP OR SITUATION	TARGET WEED	STATE	RATE ARTILLERY + MCPA amine (500g/L)	WEED STAGE	CRITICAL COMMENTS	
<b>Winter Cereals</b> (Wheat, Barley, Oats, Triticale) -continued	Ivy-Leaf Speedwell <i>Veronica hederifolia</i>	All States	50g + 500mL 60g + 500mL	2 leaf to 4 leaf 2 leaf to 6 leaf	As above.	
	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 60g + 500mL	2 leaf to 4 leaf 2 leaf to 6 leaf		
	Turnip Weed <i>Rapistrum rugosum</i>		50g + 500mL	2 leaf to 8 leaf		
	<b>Volunteer Pulses</b> - Faba Beans <i>Vicia faba</i>		50g + 500mL + 100mL Victory® OR + 200mL Cutlass®	2 leaf to 5 nodes		
	- Field Peas <i>Pisum sativum</i>			2 leaf to 5 nodes		
	- Lentils <i>Lens culinaris</i>			2 leaf to 6 leaf		
	- 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 + 100mL Victory®	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
<b>Pyrethrum</b> New crops - from 4 true leaf onwards <b>Established crops</b> - post harvest	Blackberry Nightshade <i>Solanum nigrum</i>	Tas. only	60g	2 leaf to 4 leaf	To improve weed spectrum ARTILLERY 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>			2 to 6 whorls		
	Volunteer Potatoes <i>Solanum tuberosum</i>			10 – 15 cm high		

**TABLE 2. PRE-SOWING, TREES AND VINES, NON-CROP, GRASS PASTURES AND COTTON USES**

SITUATION	WEEDS CONTROLLED	STATE	TIME OF APPLICATION	RATE	CRITICAL COMMENTS
<p>Prior to sowing winter and summer broadacre and horticultural crops; starting at fallow; and prior to establishment of forestry plantations. To assist in weed control in Commercial, Industrial and Public Service areas, around Agricultural buildings and yards.</p> <p>In young or established Grapevines, Treefruits (including Pome Fruit, Stone Fruit and Citrus Fruit), Tree Nuts and Assorted Tropical and Sub Tropical Fruits.</p>	<p>Australian Crassula/ Stoncrop, <i>Crassula</i> spp. Capeweed <i>Arctotheca calendula</i>, Chickweed <i>Stellaria media</i>, Common Storksbill (max. 4 leaves), <i>Erodium cicutarium</i>, Doublegee/Spiny Emex /Three Cornered Jack <i>Emex australis</i>, Marshmallow <i>Malva parviflora</i>, Paterson's Curse <i>Echium plantagineum</i>, Sub. Clover <i>Trifolium subterraneum</i>, Wild Radish <i>Raphanus raphanistrum</i>. Refer also to the product label for the knockdown herbicide used. If one of the above weeds is the dominant weed, and there is no specific rate for it in the knockdown herbicide's label, consult the label's generic annual weed rate-range. Select from within this range to suit the weed stage, weed-density, conditions (etc) of your situation.</p>	<p>All States</p>	<p>Apply as a tank mix with Wipe-Out® 450, Wipe-Out Accelerate or other glyphosate products; Spray &amp; Sow®, Spraytop® or other paraquat products.</p>	<p>15 - 45 g/ha plus recommended label rates of knockdown herbicides</p> <p><b>Spot spray</b> 6 g/100 L plus recommended label spot spray rates of knockdown herbicides</p>	<p>Addition of ARTILLERY to knockdown herbicides will increase the speed at which treated broadleaved weeds in general develop visible symptoms (compared to results achieved with knockdown herbicides applied alone) and may improve final control of broadleaved weeds including certain hard-to-kill weeds, Marshmallow in particular. The use of higher rates and full soil disturbance in cropping situations may improve control of Marshmallow in particular. Use the lower rates on younger plants or plants growing under good conditions and the higher rates on older plants or plants growing under less optimum conditions. The lower rate may only provide suppression of Capeweed, Wild Radish, Common Storksbill and Doublegee under poor growing conditions. Common Storksbill should be no larger than 4 leaf at spraying, recently germinated and not under stress – older or stressed plants may not be adequately controlled. Application to hardened weeds or drought stressed weeds especially under summer conditions may cause only localised injury to weed foliage which may not enhance final weed control. Mallow growing and sprayed in the summer is especially prone to drought stress and may either not show symptoms typical of ARTILLERY or may regrow following treatment although plants did not appear very stressed at application. Apply only as a tank mix with recommended rates of knockdown herbicides. Refer to the appropriate label for weed sizes and follow all label directions. Addition of a paraffinic oil adjuvant at 0.5% may be beneficial when applying ARTILLERY with a glyphosate herbicide. To ensure uptake of ARTILLERY DO NOT sow crops for at least 1 hour after application. Always refer to the appropriate companion product label in case a longer re-crop sowing period is required. When using ARTILLERY as a spot spray, apply in sufficient water (minimum 500 L/ha) to thoroughly wet all weed foliage to the point of run-off. Addition of standard rates of a non-ionic surfactant may improve weed control.</p>

**TABLE 2. PRE-SOWING, TREES AND VINES, NON-CROP, GRASS PASTURES AND COTTON USES - continued**

SITUATION	WEEDS CONTROLLED	STATE	TIME OF APPLICATION	RATE	CRITICAL COMMENTS
Prior to sowing summer broadacre and horticultural crops; starting at fallow	Volunteer Cotton seedlings, including Roundup Ready* varieties	NSW, Qld, WA only	Apply to seedlings at 2- 6 leaf stage	<p><b>Ready cotton only:</b> 45 - 60 g/ha plus a paraffinic oil adjuvant or Hasten* 1% or 45 - 60 g/ha plus Wipe-Out 450, Wipe-Out Accelerate plus a paraffinic oil adjuvant or Hasten 0.5%</p> <p><b>Conventional cotton only:</b> 30 - 45 g/ha plus recommended rates of knockdown herbicides</p>	<p>Apply ARTILLERY in a minimum spray volume of 80 L/ha to ensure effective coverage. Use of lower spray volumes may reduce weed control. Cotton should be growing well at application; application to plants growing under heat and moisture stress may reduce the level of control.</p> <p>To broaden the weed spectrum ARTILLERY may be tank mixed with the recommended rate of a knockdown herbicide (Wipe-Out 450, Wipe-Out Accelerate or other glyphosate products, Spraytop or other paraquat products, Spray &amp; Sow). When using a tank mix with glyphosate for control of Roundup Ready seedlings the higher rate range of ARTILLERY is required as well as a paraffinic oil adjuvant or Hasten at 0.5%. When using a tank mix with glyphosate for control of Conventional Cotton seedlings the addition of standard rates of a non-ionic surfactant or 0.5% of an oil adjuvant such as a paraffinic oil or Hasten will maximise control.</p>
Grass pastures; Rough Grass/ Turf Areas	Marshmallow <i>Malva parviflora</i> , Annual (stinging) Nettles <i>Urtica urens</i>	All States	Apply to seedlings at 2- 10 leaf stage	<p>15 - 45 g/ha plus a paraffinic oil adjuvant or Hasten 0.5%</p> <p>15 - 45 g/ha plus recommended rates of 2,4-D</p>	<p>Use the lower rates on younger plants or plants growing under good conditions and the higher rates on older plants or plants growing under less optimum conditions. These rates may only provide suppression of Marshmallow.</p> <p>To improve the control of Marshmallow ARTILLERY should be tank mixed with one of the following: 500 mL/ha of an 800 g/L ethyl ester of 2,4-D 650 mL/ha of a 600 g/L LV ester of 2,4-D 750 mL/ha of a 625 g/L amine of 2,4-D - activity of this mix will be improved with the addition of a paraffinic oil adjuvant or Hasten at 0.5%.</p>
Cotton	Desiccation of regrowth	Qld, NSW & WA only	Apply to regrowth following defoliation	50 - 60 g/ha plus crop oil concentrates or blended oil/ surfactant	<p>Use ARTILLERY to desiccate regrowth which occurs following the defoliation program.</p> <p>Apply with crop oil concentrates or blended oil/surfactant adjuvants as this may result in a greater reduction of green shoot.</p> <p>Use the higher rate of ARTILLERY when regrowth is vigorous or when there are more than 20 regrowth leaves of any size, per plant.</p> <p>Ensure that spray equipment is adjusted to provide thorough coverage of foliage to maximise product performance. Use a minimum of 100 L/ha for ground application and 30 L/ha for aerial application.</p>

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

**WITHHOLDING PERIODS**

**HARVEST:** NOT REQUIRED WHEN USED AS DIRECTED.  
HOWEVER, REFER ALSO TO THE WITHHOLDING PERIOD OF PRODUCT/S MIXED WITH ARTILLERY HERBICIDE.

**GRAZING:** DO NOT GRAZE TREATED AREAS OR CUT FOR STOCKFOOD FOR 14 DAYS AFTER APPLICATION.

**COTTON PROCESSING:** DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

**GRAZING/COTTON TRASH:** DO NOT GRAZE TREATED AREAS OR FEED COTTON TRASH TO LIVESTOCK.

**EXPORT SLAUGHTER INTERVAL (ESI):** An export slaughter interval is not required when used as directed.

## GENERAL INSTRUCTIONS

ARTILLERY® is a herbicide for early post-emergence control of certain broadleaf weeds in winter cereals and pyrethrum and as a post-emergence herbicide to be added to knockdown herbicides to improve the control of certain broadleaf weeds prior to the establishment of fallows, winter and summer broadacre and horticultural crops, marshmallow control in grass pastures, in commercial, industrial and public service areas, around agricultural buildings, yards and other farm situations or in treefruits, nuts and grapevines. ARTILLERY can be used alone with a suitable adjuvant for control of volunteer cotton seedlings including Roundup Ready cotton. It can also be used for desiccation of regrowth in cotton.

ARTILLERY is a fast acting contact herbicide and controls weeds through a process of membrane disruption. The foliar uptake of ARTILLERY is rapid and plant desiccation can occur within 1 to 4 days of application. Application of ARTILLERY should target small actively growing weeds. Subsequent germinations will not be controlled. ARTILLERY should always be tank mixed with MCPA amine in winter cereals.

## SYMPTOMS

ARTILLERY HERBICIDE 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 winter cereals or pyrethrum in the form of leaf spotting. However, the crop recovers quickly, usually within two to three weeks of treatment.

Extremes in environmental conditions e.g. temperature and moisture, soil conditions and/or cultural practices may affect the activity of ARTILLERY. 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 ARTILLERY.

## COMPATIBILITY

### Winter cereals

ARTILLERY should always be tank mixed with formulations of MCPA amine (500g/L) e.g. Adama MCPA 500 Herbicide to broaden the weed control spectrum compared to either product applied alone. DO NOT tank mix ARTILLERY with MCPA LVE formulations or ester formulations of other herbicides or with wetters and oil adjuvants, as excessive crop injury may occur.

ARTILLERY plus Adama MCPA 500 Herbicide is compatible with Victory® Herbicide, Cutlass® 500 Selective Herbicide, Cadence® WG Herbicide, EDTA chelate formulations of trace elements.

### Use of Surfactant/ Wetting Agents/ Oil Adjuvants

Do not add wetters, spray oils or oil/surfactant adjuvants to the tank mix of ARTILLERY plus Adama MCPA 500 Herbicide. The addition of wetters, oils and oil/surfactant blends will greatly increase crop injury without any significant improvement in weed control.

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

### Annual Grass (wild oat, ryegrass etc.) Control

ARTILLERY 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.

### Pyrethrum

ARTILLERY 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.

### Pre-sowing, trees and vines, non-crop, grass pastures and cotton uses

Where recommended in the Directions for Use, ARTILLERY should be tank mixed with formulations of knockdown herbicides including Wipe-Out 450, Wipe-Out Accelerate, Credit/Bonus® or other products based on glyphosate, Spray & Sow, Spraytop or other knockdown herbicides based on paraquat and Exonerate. ARTILLERY is also compatible with partner herbicides commonly used with knockdown herbicides including Farnozine® 900 WG, Farnozine 500 Flowable, Cutlass® 500 Selective Herbicide, 2,4-D amine, 2,4-D ester, Lonestar® (triasulfuron), pendimethalin, Simanex® 900 WG, Simazine SC and Trilogry® (trifluralin). This compatibility claim is restricted to a three-way mix of ARTILLERY with any one of the above partner herbicides plus a knockdown herbicide (provided the knockdown herbicide label includes a claim of compatibility with that partner herbicide). ARTILLERY is compatible with non-ionic surfactants (wetting agents) such as Wetspray® 1000, Shirwet® 600 and with oil adjuvants including paraffinic oil and Hasten.

## PRECAUTIONS

### Re-entry

DO NOT enter treated areas until the spray has dried.

### RESISTANT WEEDS WARNING

ARTILLERY HERBICIDE is a member of the 

GROUP	<b>G</b>	HERBICIDE
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 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 ARTILLERY is a Group G herbicide. Some naturally occurring weed biotypes resistant to ARTILLERY 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 ARTILLERY or other herbicides that inhibit the enzyme protoporphyrinogen oxidase.

Since the occurrence of resistant weeds is difficult to detect prior to use, Adama Australia Pty Ltd accepts no liability for any losses that may result from the failure of ARTILLERY to control resistant weeds.

### TIMING

#### Winter cereals and Pyrethrum

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 ARTILLERY HERBICIDE 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.

#### Pre-sowing, trees and vines, non-crop and grass pastures

Application should be made to small, actively growing weeds less than 6 to 8 leaf in stage. As ARTILLERY is a contact herbicide, best control is achieved when weeds are exposed and are not shielded by other weeds and or stubble.

### Cotton

If cotton re-growth occurs after the initial defoliation program, apply ARTILLERY to desiccate re-growth prior to harvest.

### MIXING

Read and follow all label directions including restraints, spray drift restraints, mandatory no-spray zones, critical comments, withholding periods, regional use restrictions and safety directions of the tank mix product. Add half the required volume of water to spray tank and start agitation. Add the measured amount of ARTILLERY HERBICIDE next and ensure sufficient time is allowed for complete dispersion of the granules. In cereals add the required volume of Adama MCPA 500 Herbicide 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

Do not use floodjet, boomless jets or misters or controlled droplet application equipment.

Do not apply ARTILLERY by aircraft except for cotton desiccation. Always ensure that agitation is continued until spraying is completed even if the sprayer is stopped for brief periods of time.

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

Extremes in environmental conditions e.g. temperature and moisture, soil conditions and/or cultural practices may affect the activity of ARTILLERY. 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 ARTILLERY.

### Winter cereals

Apply ARTILLERY (plus MCPA amine in cereals) as a broadcast application. Use conventional boom sprayers with either mechanical or by-pass agitation. Always ensure that agitation is continued until spraying is completed even if the sprayer is stopped for brief periods of time. 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 using a minimum spray volume of 100L/ha can improve weed control. This is particularly important on bifora and other hard to control weeds. Use a minimum of 100 L/ha if weed infestation is heavy or the crop cover is dense and this volume is highly recommended when using the preferred Air Induction (AI) nozzles.

**ARTILLERY plus MCPA amine:** this tank mix must be applied with nozzles that produce a Coarse spray quality (to ASAE S572 standard) due to the MCPA component. Air induction nozzles are the most suitable nozzle type to produce a Coarse spray quality. The preferred nozzles



are Agrotop AirMix or TeeJet AIXR. Do not use air induction (AI) or non AI nozzles that produce a spray quality of Very Coarse and above to apply ARTILLERY plus MCPA amine. Do not use TeeJet TT nozzles as experience has shown inferior control of bifora in particular can result. Single orifice or twin orifice flat fan nozzles can be used provided they meet the above specifications. Use of 110-03 or bigger single orifice nozzles or equivalent bigger twin orifice nozzles with ARTILLERY may reduce control of bifora but not other weeds.

#### **Pyrethrum**

Conventional flat fan nozzles that produce a Fine to Medium spray quality can be used.

#### **Pre-sowing, trees and vines, non-crop and grass pastures**

Apply ARTILLERY as a broadcast application using a conventional boom sprayer with either mechanical or by-pass agitation.

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 ARTILLERY. Do not use floodjet, low drift or air induction nozzles, boomless jets or misters or controlled droplet application equipment.

Spray equipment should be properly calibrated to ensure correct and uniform application. Use a spray volume of 50 to 150 litres per hectare (minimum 80 L/ha for volunteer cotton). Experience has shown that increasing spray volumes can improve weed control. Use the lowest pressure and boom height which provides uniform coverage. Use the higher volume if weed infestation is heavy and/or tall.

#### **Cotton**

When desiccating cotton regrowth, use sufficient water to obtain complete coverage of all leaves, i.e. at least 100 litres of water per hectare. Good coverage should be obtained with three or more nozzles per row depending upon crop height and canopy density.

#### **Knapsack, Pneumatic, Handgun sprayers**

Apply ARTILLERY at the recommended rate of 1 g per 10 litres (10 g per 100 litres) in conjunction with labelled handgun rates of a knockdown herbicide in sufficient water to adequately and uniformly wet the foliage of the weeds being sprayed. A spray volume of 500 L to 1000 L will usually be sufficient but higher volumes may be required for dense taller vegetation. The best application conditions are when soil is moist, weather fine and rain unlikely within one hour or as specified for the knockdown herbicide. Extremes in environmental conditions e.g. temperature and moisture, soil conditions and/or cultural practices may affect the activity of ARTILLERY. 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 ARTILLERY.

#### **Aerial Application (for Cotton Desiccation Only)**

Apply by fixed wing aircraft in a minimum of 30 L/ha water and ensure thorough coverage. Do not exaggerate swath width.

#### **SPRAYER CLEAN OUT**

After spraying ARTILLERY HERBICIDE and before using the sprayer in sensitive crops thoroughly clean all spray equipment using the following procedure.

In addition to the following procedure, ensure proper equipment clean-out for any other products mixed with ARTILLERY Herbicide as specified on the other product labels.

#### **IMPORTANT:**

**More complete cleaning can be achieved if the spray equipment is cleaned immediately following each use. Mix only as much herbicide spray solution as needed at a time. DO NOT store the sprayer for any extended period of time, especially overnight, with ARTILLERY Herbicide spray solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers.**

#### **Preparation of the Cleaning Solution:**

Prepare a spray equipment cleaning solution by mixing an alkaline detergent eg OMO® or SPREE® at a rate of 100g for every 100L of clean water used.

Upon completion of applying ARTILLERY and before spraying sensitive crops:

1. Fill the spray tank with sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles **then fill the spray tank to capacity to ensure contact of the solution with all internal surfaces. Let the cleaning solution soak in tank, pump and spray lines overnight.**
2. Before further use of the sprayer, operate the spray system for 15

minutes, then completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles.

3. If possible spray a pesticide requiring an oil adjuvant eg paraffinic oil; onto cereals as a further means of removing possible residues of ARTILLERY before spraying sensitive crops.
4. Immediately prior to commencement of spraying a sensitive crop, purge the boom lines by operating the spray system onto a fence line or waste area for sufficient time to remove any solution that has been residing in the spray lines. **This is also recommended for subsequent tank loads or if the sprayer has been left standing for a period of time containing spray solution.**
5. If storing equipment for more than 48 hours, preferred practice is to clean spray equipment as outlined above allowing to soak overnight, drain and flush with fresh water and leave fresh water in the spray tank, hoses, and spray booms until next use. This water must be drained from the spray boom and lines and flushed out with clean water before beginning any application to a sensitive crop.

Properly dispose of all cleaning solution and rinsate safely in accordance with Federal, State, and local regulations and guidelines.

**Do not** apply sprayer cleaning solutions or rinsate to sensitive crops. Should small quantities of ARTILLERY remain in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to sensitive crops and other vegetation.

**The above method is only effective if the cleaning solution comes into contact with every surface or contact point that may contain even minute carfentrazone-ethyl residues.**

#### **CROP ROTATION RECOMMENDATIONS**

ARTILLERY 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 product or used container.

#### **STORAGE AND DISPOSAL**

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

Triple-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 deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations. Do not burn empty containers or product.

**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 (i.e. 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.

#### **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.

#### **MSDS**

For further information refer to the Material Safety Data Sheet (MSDS), which can be obtained from the supplier.

**CONDITIONS OF SALE**

The use of ARTILLERY<sup>®</sup> Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia Pty. Ltd. regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Adama Australia Pty. Ltd. accepts no responsibility for any consequence whatsoever from the use of this product.

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**In case of emergency: Phone 1800 024 973**

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Batch No.

Date of Manufacture