

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

# **NAIL<sup>®</sup> 600EC**

## **HERBICIDE**

ACTIVE CONSTITUENT: 600g/L CARFENTRAZONE-ETHYL

GROUP	<b>G</b>	HERBICIDE
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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; and control of volunteer cotton seedlings including Roundup Ready<sup>®</sup> cotton and desiccation of cotton re-growth as per the Directions For Use Table.

## **CONTENTS: 500mL - 10 Litres**

Nufarm Australia Limited  
ACN 004 377 780  
103-105 Pipe Road, Laverton North Victoria 3026  
Tel: (03) 9282 1000  
nufarm.com.au

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## DIRECTIONS FOR USE

### Restrains

DO NOT apply by aerial application except for cotton desiccation.

DO NOT apply to crops or weeds which are suffering moisture stress (waterlogged or drought affected), insect, disease or nutritional disorders, frost affected (or if frosts are imminent) or stress from previous herbicide or foliar fertiliser treatment.

DO NOT spray when the leaves of the crop or weeds are wet with dew or rain.

Situation	Weeds Controlled/Situation	State	Time of Application	Rate	WHP	Critical Comments
<p>Prior to sowing winter and summer broadacre and horticultural crops; starting a fallow; and prior to establishment of forestry plantations.</p> <p>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/Stonecrop <i>Crassula</i> spp Bifora <i>Bifora testiculata</i> 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></p> <p>Refer also to the product label for the knockdown herbicide used.</p> <p>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>	All States	Refer to Critical Comments	<p>10 - 30mL/ha plus Gladiator® or other glyphosate products; Spray.Seed®, Shirquat®, Nuquat® or other paraquat products.</p> <p><b>Spot spray</b> 4mL/100L plus recommended label spot spray rates of knockdown herbicides</p>	Nil	<p>Addition of NAIL 600EC 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.</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.</p> <p>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.</p> <p>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 NAIL 600EC or may regrow following treatment although plants did not appear very stressed at application.</p> <p>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 Supercharge® Elite at 0.5% may be beneficial when applying NAIL 600EC with a glyphosate herbicide.</p> <p>To ensure uptake of NAIL 600EC 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.</p>

						When using NAIL 600EC as a spot spray, apply in sufficient water (minimum 500L/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.
Prior to sowing summer broadacre and horticultural crops; starting a fallow	Volunteer cotton seedlings, including Roundup Ready varieties	NSW, Qld & WA only	Apply to seedlings at 2- 6 leaf stage	<p><b>Roundup Ready cotton only :</b> 30 – 40mL/ha plus Supercharge Elite or Hasten 1%</p> <p><b>or</b></p> <p>30 – 40mL/ha plus Gladiator plus Supercharge Elite or Hasten 0.5%</p> <p><b>Conventional cotton only :</b> 20 - 30mL/ha plus recommended rates of knockdown herbicides</p>	Nil	<p>Apply NAIL 600EC in a minimum spray volume of 80L/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 NAIL 600EC may be tank mixed with the recommended rate of a knockdown herbicide (Gladiator or other glyphosate products, Shirquat or other paraquat products, Spray.Seed). When using a tank mix with glyphosate for control of Roundup Ready seedlings the higher rate range of NAIL 600EC is required as well as Supercharge Elite or Hasten® at 0.5%.</p> <p>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 Supercharge Elite 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>10 - 30mL/ha plus Supercharge Elite or Hasten 0.5%</p> <p>10 – 30mL/ha plus recommended rates of 2,4-D</p>	Nil	<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 control of marshmallow NAIL 600EC should be tank mixed with one of the following: 575mL/ha of a 680g/L LV ester of 2,4-D 750mL/ha of a 625g/L amine of 2,4-D – activity of this mix will be improved with the addition of Supercharge Elite or Hasten at 0.5%.</p>

Cotton	Desiccation of regrowth	Qld, NSW & WA only	Apply to regrowth following defoliation	32 – 40mL/ha	1 day	Use NAIL 600EC to desiccate regrowth which occurs following the defoliation program. Apply with crop oil concentrates or blended oil/surfactant adjuvants as this may result in a greater reduction of green shoot. Use the higher rate of NAIL 600EC when regrowth is vigorous or when there are more than 20 regrowth leaves of any size, per plant. Ensure that spray equipment is adjusted to provide thorough coverage of foliage to maximise product performance. Use a minimum of 100L/ha for ground application and 30L/ha for aerial application.
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**NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.**

**WITHHOLDING PERIOD:**

**HARVEST**

**Cotton Processing: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.**

**All Other Situations: NOT REQUIRED FOR NAIL 600EC HERBICIDE WHEN USED AS DIRECTED.**

**HOWEVER, REFER ALSO TO THE WITHHOLDING PERIOD OF PRODUCT/S MIXED WITH NAIL 600EC HERBICIDE.**

**GRAZING**

**Grass Pasture and all other situations: NOT REQUIRED FOR NAIL 600EC WHEN USED AS DIRECTED.**

**Cotton/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

NAIL 600EC Herbicide is an emulsifiable concentrate formulation and is to be mixed with water and applied as per the labelled Directions for Use.

NAIL 600EC is a post-emergence herbicide to be added to knockdown herbicides to improve the control of certain broadleaf weeds including marshmallow 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. NAIL 600EC 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.

NAIL 600EC is a fast acting contact herbicide and aids in control of weeds through a process of membrane disruption. The foliar uptake of NAIL 600EC is rapid and plant desiccation can occur within 4 days of application. Application of NAIL 600EC should target small actively growing weeds. Subsequent germinations will not be controlled.

## SYMPTOMS

NAIL 600EC 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.

Extremes in environmental conditions eg. temperature and moisture, soil conditions and cultural practices may affect the activity of NAIL 600EC. 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 NAIL 600EC.

## COMPATIBILITY

For most uses as per the Directions for Use, NAIL 600EC should always be tank mixed with formulations of knockdown herbicides including Gladiator, Gladiator Optimax, Weedmaster DST, Weedmaster Argo or other products based on glyphosate, Spray.Seed, Revolver, Shirquat, Alliance or other knockdown herbicides based on paraquat, and Biffo (glufosinate). NAIL 600EC is also compatible with partner herbicides commonly used with knockdown herbicides including 2,4-D amine, 2,4-D ester, Atradox, Atragranz, atrazine SC, Boxer Gold, Grando 600 (triclopyr), Kamba (dicamba), Logran (triasulfuron), Outlook, Rifle 440 and Stomp (pendimethalin), Sakura, Simagranz, simazine SC, Tomahawk (metribuzin), Archer (clopuralid), TriflurX and trifluralin. This compatibility claim is restricted to a three-way mix of NAIL 600EC 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). NAIL 600EC is compatible with non ionic surfactants (wetting agents) such as BS1000 and Shirwet 600, and with oil adjuvants including Adigor, Collide, Hasten, Supercharge Elite and Vibral. NAIL 600EC can also be mixed with the insecticides Astral (bifenthrin), Imidan, Le-Mat and Astound Duo (alpha-cypermethrin).

## RESISTANT WEEDS WARNING

GROUP G HERBICIDE

NAIL 600EC Herbicide is a member of the Aryl triazoline 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 NAIL 600EC is a Group G herbicide.

Some naturally occurring weed biotypes resistant to NAIL 600EC and other Group G herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by NAIL 600EC or other Group G herbicides.

Since the occurrence of resistant weeds is difficult to detect prior to use, Nufarm Australia Limited accepts no liability for any losses that may result from the failure of NAIL 600EC to control resistant weeds.

## TIMING

Pre-crop, Volunteer cotton and Marshmallow in grass pastures

Application should be made to small, actively growing weeds less than 6 to 8 leaf in stage. As NAIL 600EC 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 NAIL 600EC to desiccate re-growth prior to harvest.

### **MIXING**

Add half the required volume of water to spray tank and start agitation. Add any partner SC or WG herbicide next if it should be added before an EC or knockdown herbicide. Add the measured amount of NAIL 600EC next, followed by the knockdown herbicide (if required). Add balance of water to tank and add any adjuvant or additive if recommended for use with the knockdown herbicide or as suggested in the Critical Comments. Maintain good agitation at all times until spraying is completed. DO NOT store spray mixture overnight.

### **APPLICATION**

DO NOT apply by aerial application except for cotton desiccation.

#### **Ground sprayers**

##### Pre-crop, Volunteer cotton and Marshmallow in grass pastures

Apply NAIL 600EC 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 NAIL 600EC. Do not use floodjet, 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 80 to 150 litres per hectare. 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 desiccation cotton regrowth, use sufficient water to obtain complete coverage of all leaves, ie. 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 NAIL 600EC at the recommended rate of 4mL 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 500L to 1000L 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 eg. temperature and moisture, soil conditions and/or cultural practices may affect the activity of NAIL 600EC. 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 NAIL 600EC.

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

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

#### **SPRAYER CLEAN OUT - AFTER THE USE OF NAIL 600EC**

Thoroughly clean all spray equipment using the following procedure when you have finished spraying highly active materials such as carfentrazone-ethyl.

In addition to the following procedure, ensure proper equipment clean-out for any other products mixed with NAIL 600EC 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 over night, with NAIL 600EC 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 NAIL 600EC and before spraying sensitive crops including **canola, pulses such as faba beans, lentils, other legumes and cotton:**

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 Achieve & Supercharge Elite onto cereals as a further means of removing possible residues of NAIL 600EC 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 over night, 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 NAIL 600EC 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 PLANT BACK & ROTATION RECOMMENDATIONS**

NAIL 600EC Herbicide does not provide residual activity, therefore no crop plant back or rotational restrictions apply. However, check the label of any product mixed with NAIL 600EC Herbicide, to determine any plant back periods or restrictions on use.

**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.



[spraywisedecisions.com.au](http://spraywisedecisions.com.au) is an online weather forecasting program and is recommended for use when planning your pesticide application.

## **PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT**

Highly toxic to algae and aquatic plants. DO NOT contaminate streams, rivers or waterways with NAIL 600EC 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 500mm 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.

## **SAFETY DIRECTIONS**

Harmful if inhaled. May irritate the skin. Will damage eyes. Avoid contact with eyes. Do not inhale spray mist. When opening the container and preparing spray for use, wear face shield or goggles and disposable (mist) face mask covering mouth and nose. When preparing the product for use for aerial spray equipment, wear cotton overalls over normal clothing buttoned to the neck and wrist, and a washable hat and elbow length chemical resistant gloves. When preparing the product for use and if applying by boomspray equipment, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length chemical resistant gloves. When preparing the product for use and if applying by spraying equipment carried on the back of user, wear cotton overalls over normal clothing buttoned to the neck and wrist and elbow length chemical resistant gloves. 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.

## **ADDITIONAL STATEMENTS (WHS REGULATIONS 2011)**

**Suspected of causing cancer. Causes skin irritation. Combustible liquid.** Wear protective gloves, clothing, eye and face protection. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention.

## **SAFETY DATA SHEET**

For further information refer to the Safety Data Sheet (SDS), which can be obtained from your supplier or from the Nufarm website – [nufarm.com.au](http://nufarm.com.au)

**In case of emergency: Phone 1800 033 498** Ask for shift supervisor. Toll free 24 hours.

## **Conditions of sale**

"Any provisions or rights under the Competition and Consumer Act 2010 or relevant state legislation which cannot be excluded by those statutes or by law are not intended to be excluded by these conditions of sale. Subject to the foregoing, all warranties, conditions, rights and remedies, expressed or implied under common law, statute or otherwise, in relation to the sale, supply, use or application of this product, are excluded. Nufarm Australia Limited and/or its affiliates ("Nufarm") shall not accept any liability whatsoever (including consequential loss), or howsoever arising (including negligence) for any damage, injury or death connected with the sale, supply, use or application of this product except for liability which cannot be excluded by statute."

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Nufarm Australia Limited  
ACN 004 377 780  
103-105 Pipe Road, Laverton North Victoria 3026  
Tel: (03) 9282 1000  
[nufarm.com.au](http://nufarm.com.au)

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