

CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

CYCLONE 440EC
HERBICIDE

Active Constituent: 440g/L PENDIMETHALIN
Solvent: 499g/L LIQUID HYDROCARBON

GROUP	D	HERBICIDE
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For the control of annual ryegrass and wireweed in wheat, barley and peas and annual grasses and certain broadleaved weeds in various crops as shown in the DIRECTIONS FOR USE table.

READ THE ATTACHED BOOKLET BEFORE USING THIS PRODUCT

Contents:

5/10/20/110/200/1000 LITRES

ChemAg Pty Ltd ACN 009 234 691
Suite 12, 11 Preston Street Como Western Australia 6152
Tel: (08) 9368 7474 Fax: (08) 9368 7475

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemical 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 500mm 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.

Returnable Containers: Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

SAFETY DIRECTIONS

Harmful if swallowed. Will irritate eyes, nose and throat, and skin. Avoid contact with eyes and skin. Do not inhale vapour. When preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow-length nitrile gloves, and face shield or goggles. If product on skin, immediately wash area with soap and water. 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 131126). If swallowed, DO NOT induce vomiting. Give a glass of water.

MATERIAL SAFETY DATA SHEET.

For further information refer to the Material Safety Data sheet.

CONDITIONS OF SALE:

"ChemAg Pty Ltd shall not be liable for any loss, injury, damage or death whether consequential or otherwise whatsoever or howsoever arising whether through negligence or otherwise in connection with the sale, supply, use or application of this product. The supply of this product is on the express condition that the purchaser does not rely on ChemAg's skill of judgment in purchasing or using the same and every person dealing with this product does so at his own risk absolutely. No representative of ChemAg has any authority to add to or alter these conditions".

In case of emergency: Phone 000, Police or Fire Brigade

NRA Approval No:

Batch No:

Date of Manufacture:

[DRUM MUSTER LOGO]

BAR
CODE

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BOOKLET

For the control of annual ryegrass and wireweed in wheat, barley and peas and annual grasses and certain broadleaved weeds in various crops as shown in the DIRECTIONS FOR USE table.

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DIRECTIONS FOR USE:

RESTRAINTS:

Do NOT sow sensitive summer crops such as sorghum and millets within 12 months of application of CYCLONE 440EC.

Do NOT apply to a poorly prepared seedbed.

Do NOT use CYCLONE 440EC mixed with atrazine on heavy clay soils.

Do NOT apply CYCLONE 440EC where waterlogging is likely to occur.

CROP	WEEDS CONTROLLED	STATE	RATE/ TREATED ha	CRITICAL COMMENTS
1. PRE-PLANT INCORPORATED TREATMENT (DOUBLE INCORPORATION)				
Cotton	See Weed Table A	Qld and NSW only	2.25 L/ha	Incorporate into the soil within 24 hours of application. Use a combine with trailing harrows and chain or offset or tandem discs or Lilliston cultivators, set to work to a depth of 2-5cm. Subsequent planting operations in irrigated cotton may remove the CYCLONE 440EC treated soil forms hills leaving and untreated band over the row, requiring a further application of CYCLONE 440EC or other herbicides in that band. When the seedbed is rough, a second incorporation is necessary. CYCLONE 440EC may be applied by aerial or ground spraying. In the Macquarie Valley area, only apply by air when ground is too wet for ground application. (Refer note on "incorporation" (a)). Use the higher rate on heavy textured soils or those high in organic matter and the lower rate on light to medium textured soils.
Cow peas, mung beans, navy beans, peanuts, pigeon peas and soybeans.	See Weed Table A	Qld, NSW, and NT only	1.9 to 2.25 L/ha	
Sunflowers	See Weed Table A	Qld, NSW, Vic and SA only		
Barley and wheat	Annual ryegrass (<i>Lolium rigidum</i>), Wireweed (<i>Polygonum aviculare</i>). Wild oats * (<i>Avena</i> spp.) * Suppression only	All States	900 mL/ha	Incorporate into the soil within 24 hours of application. (Refer note (a) under "incorporation"). Use weighted harrows at 8-13 km/hr followed by a cross working with a combine set to work at a depth of 2-5cm at 8-13 km/hr. Application to heavier soil types which have poor structural characteristics or are poorly worked may result in insufficient and uneven incorporation and unsatisfactory weed control. Heavy soils which are cloddy or have a surface crust or surface seal should be avoided. Attempting to incorporate CYCLONE 440EC when soils are very wet or very dry may also result in insufficient mixing and therefore poor weed control. Wheat and barley seed must be sown approximately 1cm beneath the chemically treated band or reduced emergence may occur. Refer sections "Cereal Seed Dressings" and "Weather Conditions at Planting", under GENERAL INSTRUCTIONS, for further information on emergence. If wild oats are expected to be a problem use a wild oat herbicide.
Field peas		Southern NSW, Vic, Tas, SA and WA only	1.5 L/ha	Incorporate into the soil within 24 hours of application. Use weighted harrows at 8-13 km/hr followed by a cross working with a combine set to work at a depth of 2-5cm at 8-13 km/hr. Seed should be sown below the chemical band. Use cover harrows behind the combine. (Refer note (a) under "incorporation"). Use a wild oat herbicide if wild oats are expected to be a problem.

CROP	WEEDS CONTROLLED	STATE	RATE/ TREATED ha	CRITICAL COMMENTS
1. PRE-PLANT INCORPORATED TREATMENT (DOUBLE INCORPORATION)				
Chickpeas, faba beans, lupins and safflower.	Annual ryegrass, wireweed, wild oats * * Suppression only	Qld and northern NSW only	1.9 to 2.5 L/ha	Incorporate into the soil within 24 hours of application. Use weighted harrows at 8-13 km/hr followed by a cross working with a combine set to work at a depth of 2-5cm at 8-13 km/hr. Seed should be sown below the chemical band. Use cover harrows behind the combine. (Refer note (a) under "incorporation"). Use the higher rates on medium to heavy textured soils and the lower rates on light textured soils. Heavy soils which are cloddy or have a surface seal should be avoided. Attempting to incorporate CYCLONE 440EC when soils are very wet or very dry may also result in insufficient mixing and therefore poor weed control. If wild oats are expected to be a problem use a wild oat herbicide.
2. PRE-PLANT APPLICATION (INCORPORATED BY THE SOWING PROCESS)				
Barley and wheat	Annual ryegrass, wireweed, wild oats * * Suppression only	All states	1.4 L/ha	Barley and Wheat: Where full (double) incorporation is impractical and where the seedbed tilth is fine and free of large stones and trash, apply CYCLONE 440EC up to 24 hours prior to sowing. Incorporate with the combine set to sow to a depth of 3-5cm. Use trailing harrows. (Refer note (a) under "incorporation"). Wheat and Barley seed must be sown at least 1cm beneath the chemically treated band or reduced emergence may occur. Refer sections "Cereal Seed Dressings" and "Weather Conditions at Planting", under GENERAL INSTRUCTIONS, for further information on emergence. Canola: Apply CYCLONE 440EC up to 24 hours prior to sowing. Incorporate with the combine set to sow the seed below the chemical band. Use the higher rates on medium to heavy textured soils and the lower rates on light textured soils. NOTE: Development of water-logged conditions after the application of CYCLONE 440EC may retard the emergence of canola. If wild oats are expected to be a problem use a wild oat herbicide. Application to heavier soil types which have poor structural characteristics or are poorly worked may result in insufficient and uneven incorporation and unsatisfactory weed control. Heavy soils which are cloddy or have a surface crust or surface seal should be avoided. Attempting to incorporate CYCLONE 440EC when soils are very wet or very dry may also result in insufficient mixing and therefore poor weed control.
Canola	Annual ryegrass, wireweed, wild oats * * Suppression only	Southern NSW, Vic, SA and WA only	1.4 to 2.25 L/ha	
	Silvergrass * (<i>Vulpia</i> spp.) * Suppression only		1.5 to 2.25 L/ha	
Chickpeas, faba beans, field peas, lupins and safflower.	Annual ryegrass, wireweed, silvergrass * (<i>Vulpia</i> spp.). Wild oats * * Suppression only	Southern NSW, Vic, SA and WA only	1.5 to 2.25 L/ha	Where full (double) incorporation is impractical and where the seedbed tilth is fine and free of large stones and trash, apply CYCLONE 440EC or in the case of lupins, CYCLONE 440EC plus simazine, up to 24 hours prior to sowing. Incorporate with the combine set to sow to a depth of 3-5cm. Use trailing harrows. (Refer note (a) under "incorporation".) Application to heavier soil types which have poor structural characteristics or are poorly worked may result in insufficient and uneven incorporation and unsatisfactory weed control. Heavy soils which are cloddy or have a surface crust or a surface seal should be avoided. Attempting to incorporate CYCLONE 440EC when soils are very wet or very dry may also result in insufficient mixing and therefore poor weed control. Refer to section on "Weather Conditions at planting", under GENERAL INSTRUCTIONS, for further information on emergence. If wild oats are expected to be a problem use a wild oat herbicide. Use the higher rate on heavy textured soils and the lower rates on light textured soils.
Lupins		WA only	1.5L/ha plus simazine at 500g ai/ha	
		NSW, Vic and SA only	1.5L plus simazine at 1.5kg ai/ha	

3. POST PLANT PRE-EMERGENCE SURFACE TREATMENT (OVERALL OR BAND SPRAYING): NON-MECHANICAL INCORPORATED				
Cotton	Seed weed table B	Qld and NSW only	3.4L/ha	COTTON: Where incorporation prior to sowing is impractical and where the seedbed tilth is fine and free of large stones and trash, CYCLONE 440EC should be applied within 48 hours after sowing.
Sunflowers		Qld, NSW and SA only		SUNFLOWERS: Where incorporation prior to sowing is impractical and where the seedbed tilth is fine and free of large stones and trash, CYCLONE 440EC should be applied after sowing and before the emergence of the crop and weeds. Where fat hen or blackberry nightshade is expected to be a major problem, pre-plant incorporation (No.1 application method), is preferred. (Refer section on "Incorporation" (a) and (b)).
Carrots	See Weed Table D	Qld, NSW, Vic, SA, Tas and WA only	1.5 to 2.25 L/ha	MINIMUM PLANTING DEPTH: Carrots: 15mm Processing peas and French beans: 30mm Seed should be sown with press wheels or rollers behind the planter in order to ensure coverage of the seed and compaction of the seed bed. Apply CYCLONE 440EC to a fine firm seedbed free of ridges, clods and trash within 2 days after sowing. Use the higher rates on heavier textured soils or those with a higher organic matter content. Incorporate with 12 to 25mm of spray irrigation or rainfall applied within one day of application for optimum performance.
	Weed Table D plus sow thistle (<i>Sonchus oleraceus</i>), wild radish (<i>Raphanus raphanistrum</i>)		1.5 L/ha plus Linuron at 1kg ai/ha	DO NOT disturb the soil by rolling or harrowing after CYCLONE 440EC has been applied. DO NOT apply where heavy rainfall or irrigation is likely to lead to water logging. DO NOT use CYCLONE 440EC on soils with an organic matter content above 6% as inconsistent weed control will occur.
French beans	Seed Weed Table D	Qld only	2.25 - 3 L/ha	FRENCH BEANS: For use in the Lockyer and Fassifern valleys only. DO NOT apply to French beans sown during the autumn, winter or early spring or which are likely to be stressed by cold weather.
Processing peas		Qld and Vic only	1.5 to 3 L/ha	
		Tas only	3 L/ha	
Maize	See Weed Table B	Qld, NSW and NT only	3.4 L/ha	Where grasses are expected to be a major problem, this treatment is recommended - CYCLONE 440EC alone. Apply CYCLONE 440EC after planting and before, emergence of crop and weeds. DO NOT incorporate this treatment. Avoid application in dry weather, this may cause pruning or aerial roots and lodging. (Refer sections on "Incorporation" (b) and (c)).
	See Weed Table C		2.25 L/ha plus atrazine at 1kg ai/ha	Where thornapple, Noogoora burr, Bathurst burr, caltrop, paddy melon or mintweed are expected to be the major problems, CYCLONE 440EC should be applied in tank mix combination with atrazine after planting and before the emergence of crop and weeds. DO NOT incorporate this mixture. Follow directions on atrazine label carefully. This treatment should not lead to soil residue problems with atrazine as the application rate is low. DO NOT use CYCLONE 440EC mixed with atrazine on heavy clay soils as weed control may not be adequate. (Refer section on "Incorporation" (b) and (c)).

3. POST PLANT PRE-EMERGENCE SURFACE TREATMENT (OVERALL OR BAND SPRAYING): NON-MECHANICAL INCORPORATED				
Onions	Hogweed (wireweed) (<i>Polygonum aviculare</i>)	Tas only	0.56 to 0.75 L/ha	Apply in conjunction with other herbicides as advised by a qualified crop adviser to ensure that an adequate level of weed control is achieved in adverse conditions. Pre-emergence: DO NOT use on sandy soils. MINIMUM PLANTING DEPTH: 15mm Apply from immediately after sowing until just prior to emergence. Apply CYCLONE 440EC to a fine firm seedbed free of clods and trash. Use the higher rates on heavy textured soils or those with a high organic matter content. For optimum performance, incorporate with 12 to 25mm of spray irrigation within one day of application. DO NOT exceed 0.56 L/ha if soil conditions are wet and cold.
			0.75 to 1.5 L/ha	Post-emergence: Apply CYCLONE 440EC from the first true leaf until the 3 leaf stage. Repeat applications may be made after the 1 leaf up to the 3 leaf stage providing total usage of CYCLONE 440EC on crop does not exceed 2.25 L/ha. Avoid applying CYCLONE 440EC to areas where water logging is likely to occur.
4. POST-PLANT EMERGENCE TREATMENT (INCORPORATED OR NON-INCORPORATED)				
Sugarcane	Awnless barnyard grass (<i>Echinochloa colona</i>), crowsfoot grass (<i>Eleusine indica</i>), green summer grass (<i>Brachiaria subquadripara</i>), Guinea grass (<i>Panicum maximum c.v. Hamil and c.v. Guinea</i>), Summer grass (<i>Digitaria ciliaris</i>)	Qld, NSW and WA only	2.25 to 3.4 L/ha	CYCLONE 440EC should be applied as soon as possible after planting and before weed emergence. However, consolidation (cutaway operation) of the planting furrow prior to application to prevent soil movement into the base of the drill is recommended. Poor grass control is expected in soils which contain a high percentage of organic matter. (Refer section on "Incorporation" (a)). Use the higher rate where longer weed control is required or where incorporation by irrigation or rainfall is likely to be delayed more than 5 days. INCORPORATED: Under dry conditions or where some cultivation is expected after application CYCLONE 440EC should be thoroughly incorporated by finger rakes to a shallow depth. In subsequent tillage operations, cultivation depth should not exceed the depth of the incorporation. WATER INCORPORATION: Incorporate using 12 to 25mm of spray irrigation or rainfall within 10 days of application. The area should not be disturbed by cultivation for the expected duration of weed control where this method of application is used. If excessive irrigation or rainfall occurs after the application of CYCLONE 440EC, resulting in the movement of soil from the top to the bottom of the planting drill, weed control will be reduced.
	Blue top (blue billygoat weed) (<i>Ageratum houstonianum</i>)		2.25 L/ha plus atrazine at 1.5kg ai/ha or diuron at 1.5kg ai/ha	For other broadleaved weeds higher rates of atrazine and diuron can be tank mixed with CYCLONE 440EC – see the relevant atrazine or diuron labels for details.

5. POST PLANT AND FLUSHING: CYCLONE 440EC TANK MIXTURES				
Combine sown rice	Barnyard grass (<i>Echinochloa spp.</i>) Silvertop grass (brown beetle grass) (<i>Diplachne reptatrix</i>), Starfruit (<i>Damasonium minus</i>)	Qld, NSW and NT only	2.25L/ha plus propanil at 1.8kg ai/ha	Apply this tank mixture up to the 2 leaf stage of barnyard grass and 1 leaf stage of silvertop. Apply by ground rig in 70-100 L/ha or by aircraft in 25-30 L/ha total spray volume. WATER MANAGEMENT: Flush immediately after sowing to enable a good even germination of rice. The soil surface must be sealed by a flushing irrigation or rainfall before the application of CYCLONE 440EC plus propanil. Apply a second flush or permanent flood after 2 days but not later than 5 days after the application of CYCLONE 440EC plus propanil. To assist in the control of barnyard grass, permanent water should be applied as soon as the rice can tolerate it and levels maintained for optimum growth of rice. RICE STAGE: After the first flushing irrigation the stage of rice at application of CYCLONE 440EC plus propanil is not critical and timing should be based on the stage of weed growth and water management. However do NOT apply to rice in a weakened condition from causes such as soil salts, moisture stress, overwatering, or any other cause. Some transient leaf burn of the rice may result after the application of CYCLONE 440EC plus propanil but no long term effects will result from this leaf burn. Rice seed should be covered with at least 1cm of water after the first flushing irrigation before CYCLONE 440EC plus propanil is applied to germinating rice seed.
Combine sown rice and pasture sod sown rice	Barnyard grass, silvertop grass, starfruit, annual sedges * (<i>Cyperus spp.</i>) * Suppression only	Qld, NSW and NT only	2.25 or 3.4 L/ha plus Paraquat at 200g ai/ha	Use the higher rate when sowing into pasture sod sown rice for annual sedge control or when more than 10 days is expected between treatment and permanent water. Apply this tank mix up to the 3 leaf stage of barnyard grass, silvertop and sedges, before rice emergence. Apply by ground-rig in 70-100 L/ha of water total spray volume. WATER MANAGEMENT: Flush immediately after sowing to enable a good even germination of rice. The soil surface must be sealed by a flushing irrigation or rainfall before the application of CYCLONE 440EC plus paraquat. Apply a second flush or permanent flood after 1 day but not later than 5 days after the application of CYCLONE 440EC plus paraquat. To assist in the control of barnyard grass, permanent water should be applied as soon as the rice can tolerate it and levels maintained for optimum growth of rice. RICE STAGE: After the first flushing irrigation, CYCLONE 440EC plus paraquat must be applied before rice emergence. Do NOT apply to rice in a weakened condition from causes such as soil salts, moisture stress, over-watering, or any other cause.

6. PRE-TRANSPLANT TREATMENT

Transplanted broccoli, cabbage and cauliflower	See Weed Table D	Qld, NSW, Vic, SA and WA only	1.5 to 2.25 L/ha	<p>Apply CYCLONE 440EC to a firm seedbed free of ridges, clods and trash between 7 to 2 days before transplanting. Use the higher rates on heavier textured soils or those with a higher organic matter content. Incorporate with 12 to 25 mm of spray Irrigation or rainfall applied within one day of application for optimum performance. Mechanical disturbance to the seed bed at transplanting should be minimised to achieve optimum performance.</p> <p>Do NOT apply after transplanting as damage will occur. Do NOT apply where water logging is likely to occur after transplanting or crop stunting will result.</p> <p>Do NOT use CYCLONE 440EC on soils with an organic matter content above 6% as inconsistent weed control will occur.</p> <p>Ramrod® may be tank mixed with CYCLONE 440EC prior to transplanting or applied separately after transplanting</p> <p>® registered trademark of Monsanto Company, USA</p>
	<p>Weed Table D plus dwarf amaranth (<i>Amaranthus macrocarpus</i>), green amaranth (<i>Amaranthus viridis</i>), annual nettles (<i>Urtica spp.</i>), Indian hedge mustard (<i>Sisymbrium orientale</i>), potato weed (<i>Galinsoga parviflora</i>), sowthistle, turnip weed (<i>Rapistrum rugosum</i>), wild radish, wild turnip (<i>Brassica tournefortii</i>), winter grass (<i>Poa annua</i>)</p>		1.5 to 1.9 L/ha plus 9 L/ha Ramrod® SC	
Transplanted Lettuce	See Weed Table D		1.5 to 3 L/ha	
7. PERENNIAL CROPS				
Avocados, bananas, citrus, deciduous fruits, grapevines, lychees, macadamia nut, mangoes, Nuts	<p>Dwarf amaranth, green amaranth, annual ryegrass, asthma plant (<i>Euphorbia hirta</i>), barnyard grass, chickweed (<i>Stellaria media</i>), crowfoot grass, deadnettle (<i>Lamium amplexicaule</i>), fat hen (<i>Chenopodium album</i>), pigeon grass, pigweed (<i>Portulaca oleracea</i>), prickly lettuce (<i>Lactuca serriola</i>), sowthistle, summer grass, winter grass, wireweed.</p>	All States	6.75 to 9 L/ha	<p>Do NOT apply CYCLONE 440EC to grapevines after bud swell.</p> <p>PRECAUTION: CYCLONE 440EC OR CYCLONE 440EC plus simazine is likely to affect the emergence and growth of green manure crops such as oats or beans between rows of trees or vines, if they are sown into the treated band within 12 months of application. Use the higher rate on medium to heavy textured soils and the lower rate on light textured soils. Use a directed spray avoiding contact with green bark, fruit and foliage. If applied to freshly transplanted trees or vines, soil should be compacted prior to application of CYCLONE 440EC to avoid contact with roots. CYCLONE 440EC must be incorporated by a minimum of 5mm of rainfall or spray irrigation as soon as possible but no later than 10 days after application or weed control may be reduced. For best results, soil surface should be free of weeds, surface litter and clods at the time of application. If small weeds are present at the time of application, CYCLONE 440EC should be tank mixed with a knockdown herbicide at the recommended rate.</p> <p>CAUTION: Use of simazine mixtures could lead to crop damage on vines younger than 3 years of age. Refer to the simazine label.</p> <p>Do NOT apply simazine mixtures to alkaline soils.</p>
	As above plus prairie grass (<i>Bromus unioloides</i>), spotted medic (<i>Medicago arabica</i>)		9 L/ha	
Citrus, deciduous fruits, grapevines and nuts	As above plus cobbler's pegs (<i>Bindens pilosa</i>), curious weed (<i>Schkuhriapinnata</i>), stinking roger (<i>Tagetes minuta</i>)		6.75 L/ha plus simazine at 800g ai/ha	
	As above plus caltrop (<i>Tribulus terrestris</i>)		9 L/ha plus simazine at 1kg ai/ha	

7. PERENNIAL CROPS (con't)				
Established lucerne seed crops only	Fat hen, summer grass (<i>Digitaria sanguinalis</i>),	NSW and SA only	2.25 L/ha	During the spring months prior to irrigation, the lucerne stand should be grazed down hard to produce a low trash soil surface. Apply CYCLONE 440EC and incorporate treatment by 12-25mm of spray irrigation or rainfall within 1 day of application.
	As above plus pigeon grass (<i>Setaria spp.</i>).		3.4 L/ha	
Pyrethrum – newly transplanted "splits"	Seedling docks (<i>Rumex spp.</i>). Useful suppression of the following weeds is also obtained: capeweed (<i>Arctotheca calendula</i>), <i>Erodium spp.</i> (storksbill), spear thistle (<i>Cirsium vulgare</i>)	Tas only	3.75 L/ha	Apply immediately following transplanting before emergence of weeds. Repeat application in any one year should only be made according to advice from crop advisers. Use lower rates on light soils. This product should be used in combination with other registered herbicides as recommended by crop advisers.
Established pyrethrum (one year old or greater)				Apply in autumn or spring prior to weed germination. Note existing weeds must be controlled with a knockdown herbicide, as CYCLONE 440EC will not control these weeds. Repeat applications in any one year should only be made according to advice from crop advisers. This product should be used in combination with other registered herbicides as recommended by crop advisers.
Teatree (<i>Melaleuca alternifolia</i>)	Weed Table B plus dwarf amaranth, green amaranth, annual ryegrass, barnyard grass, chickweed (<i>Stellaria media</i>), crowsfoot grass, deadnettle (<i>Lamium amplexicaule</i>), fat hen, pigeon grass, pigweed, prickly lettuce (<i>Lactuca serriola</i>), sowthistle, summer grass, winter grass, wireweed.	NSW, Qld, SA and NT only	3.4 to 6.75 L/ha	Do NOT tank mix with simazine as crop damage may result. For best results the soil surface should be free of weeds, surface litter and clods at the time of application. PRE-TRANSPLANTING: Apply 7-2 days prior to transplanting seedlings. Use the higher rates on heavier textured soils or soils with higher organic matter. Mechanical disturbance should be minimised during planting to optimise performance. Avoid contact of treated soils with seedling roots. POST-TRANSPLANTING: Apply immediately following planting and pre-emergence of weeds. If applied to freshly transplanted trees, soils should be compacted prior to application of CYCLONE 440EC to avoid contact with the roots. Weed control may be reduced if rainfall or irrigation does not occur within 10 days of application. Flood irrigation may reduce control.
8. ESTABLISHED TURF				
TURF WARM SEASON SPECIES. Bahia grass, buffalo grass, couch, kikuyu, salt water couch and Zoysia grass turf.	Crowsfoot (crab grass), summer grass, winter grass.	All States	3.4 L/ha or 34mL/100m ²	The product should be incorporated by 10-15mm of spray irrigation or rainfall as soon as possible within one day of application. Apply once every 10 weeks from early September to the end of February.
Queensland blue couch, hybrid couch cv. <i>Tifdwarf</i>			2.25 L/ha or 22.5mL/100m ²	
TURF COOL SEASON SPECIES. Kentucky blue grass			3.4 L/ha or 34mL/100m ²	
Bent grass, perennial ryegrass.			2.25 L/ha or 22.5mL/100m ²	Do NOT make more than one application of CYCLONE 440EC per year. (Refers to ryegrass, bent grass only).
8. IRRIGATION CHANNELS				
Cotton irrigation banks, channels and drains	Barnyard grass, silvertop grass (brown beetle grass)	Qld and NSW only	3.4 to 6.75 L/ha	Use the lower rate when short term control is required. Apply in late winter or early spring after regrading or clearing channels. The soil should be loose and free of large clods. If 25-50mm of rainfall has not fallen within 14 days of application the channel should be filled with water and allowed to stand for 1 day. The water in the channel should then be drained off and used to pre-irrigate cotton fields. Do NOT use water in channel to irrigate or pre-irrigate susceptible crops.
			4.5 L/ha plus diuron at 8.1kg ai/ha	Use this mixture where long term control is required or a broader weed spectrum is present. See diuron label for details. Water in the channel should NOT be used to irrigate or pre-irrigate susceptible crops.

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

WITHHOLDING PERIOD: NOT REQUIRED WHEN USED AS DIRECTED.

WEED TABLE

A. IN COTTON, COW PEAS, MUNG BEANS, NAVY BEANS, PEANUTS, PIGEON PEAS, SOYBEANS, SUNFLOWERS with pre-plant incorporated treatment (double incorporation)

The following weeds are controlled.

Barnyard grass	<i>Echinochloa spp</i>	Native Millet	<i>Panicum decompositum</i>
Button grass	<i>Dactyloctenium radulans</i>	Pale pigeon grass	<i>Setaria glauca</i>
Common heliotrope	<i>Heliotropium europeum</i>	Paspalidium (Brigalow grass)	Paspalidium spp
Crested goosefoot	<i>Chenopodium cristatum</i>	Pepper grass	<i>Panicum whitei</i>
Crowsfoot grass	<i>Eleusine indica</i>	Pigweed	<i>Portulaca oleracea</i>
Dwarf amaranth	<i>Amaranthus macrocarpus</i>	Queensland blue grass	<i>Dichanthium sericeum</i>
Early spring grass	<i>Eriochloa spp.</i>	Red flinders grass	<i>Iseilema vaginiflorum</i>
Fat hen	<i>Chenopodium album</i>	Scarlet pimpernel	<i>Anagallis arvensis</i>
Green amaranth	<i>Amaranthus viridis</i>	Small burr grass	<i>Tragus australianus</i>
Liverseed grass	<i>Urochloa panicoides</i>	Stink grass	<i>Eragrostis cilianensis</i>
Mexican clover (white eye)	<i>Richardia brasiliensis</i>	Weeping love grass	<i>Eragrostis parviflora</i>
Mossman river grass	<i>Cenchrus echinatus</i>	Wireweed	<i>Polygonum aviculare</i>

Useful suppression of the following weeds is also obtained.

Blackberry nightshade	<i>Solanum nigrum</i>	Mintweed	<i>Salvia reflexa</i>
Caltrop	<i>Tribulus terrestris</i>	Peppergrass	<i>Lepidium spp.</i>
Common verbena	<i>Verbena officinalis</i>	Stagger weed	<i>Stachys arvensis</i>

B. IN COTTON, SUNFLOWERS, MAIZE AND TEATREE –with post-plant pre-emergence surface treatment (CYCLONE 440EC alone)

The following weeds are controlled

Barnyard grass	<i>Echinochloa spp</i>	Pale pigeon grass	<i>Setaria glauca</i>
Button grass	<i>Dactyloctenium radulans</i>	Paspalidium (Brigalow grass)	Paspalidium spp
Common heliotrope	<i>Heliotropium europeum</i>	Pepper grass	<i>Panicum whitei</i>
Crested goosefoot	<i>Chenopodium cristatum</i>	Pigweed	<i>Portulaca oleracea</i>
Crowsfoot grass	<i>Eleusine indica</i>	Queensland blue grass	<i>Dichanthium sericeum</i>
Dwarf amaranth	<i>Amaranthus macrocarpus</i>	Red flinders grass	<i>Iseilema vaginiflorum</i>
Early spring grass	<i>Eriochloa spp</i>	Scarlet pimpernel	<i>Anagallis arvensis</i>
Green amaranth	<i>Amaranthus viridis</i>	Small burr grass	<i>Tragus australianus</i>
Liverseed grass	<i>Urochloa panicoides</i>	Stink grass	<i>Eragrostis cilianensis</i>
Mexican clover (white eye)	<i>Richardia brasiliensis</i>	Weeping love grass	<i>Eragrostis parviflora</i>
Mossman river grass	<i>Cenchrus echinatus</i>	Wireweed	<i>Polygonum aviculare</i>
Native millet	<i>Panicum decompositum</i>		

Useful suppression of the following weeds is also obtained

Caltrop	<i>Tribulus terrestris</i>	Mintweed	<i>Salvia reflexa</i>
Common sowthistle	<i>Sonchus oleraceus</i>	Peppergrass	<i>Lepidium spp.</i>
Common verbena	<i>Verbena officinalis</i>	Stagger weed	<i>Stachys arvensis</i>

C. IN MAIZE –with post-plant pre-emergence surface treatment of CYCLONE 440EC plus tank mix with atrazine.

The following weeds are controlled in addition to those controlled by CYCLONE 440EC alone:

Bathurst burr	<i>Xanthium spinosum</i>	Noogoora burr	<i>Xanthium pungens</i>
Caltrop	<i>Tribulus terrestris</i>	Paddy melon	<i>Cucumis spp.</i>
Mintweed	<i>Salvia reflexa</i>	Thornapple	<i>Datura spp.</i>

The following weeds are not controlled by CYCLONE 440EC or the mixture with atrazine:

Bindweed
Wandering jew

Convolvulus spp.
Commelina spp.

Nut grass

Cyperus rotundus

D. IN CARROTS, PROCESSING PEAS, FRENCH BEANS, TRANSPLANTED CABBAGE, CAULIFLOWER, BROCCOLI AND LETTUCE – with pre-emergence surface treatment after planting or before transplanting as directed and incorporated by spray irrigation.

Awnless barnyard grass
Bittercress
Bladder ketmia
Chickweed
Deadnettle

Echinochloa colona
Coronopus didymus
Hibiscus trionum
Stellaria media
Lamium amplexicaule

Fat hen
Green fat hen
Pigweed
Prickly lettuce
Shepherd's purse
Wireweed

Chenopodium album
Chenopodium murale
Portulaca oleracea
Lactuca serriola
Capsella bursa-pastoris
Polygonum aviculare

Useful suppression for the following weeds at the lower rates. Higher rates or tank mixtures are required for complete control (see Directions for Use Table).

Annual nettles
Blackberry nightshade
Common sowthistle
Fumitory

Urtica spp.
Solannum nigrum
Sonchus oleraceus
Fumaria spp.

Indian hedge mustard
Turnip weed
Wild radish
Winter grass

Sisymbrium orientale
Rapistrum rugosum
Raphanus raphanistrum
Poa annua

GENERAL INSTRUCTIONS

CYCLONE 440EC is a selective herbicide for the control of most annual grasses and certain broadleaved weeds. CYCLONE 440EC controls weeds by inhibiting seedling development; it will not control established weeds. For best results, seedbeds should be free of weeds, trash and clods at the time of application. Soils containing a high percentage of organic matter can result in poor control. It is recommended that application to soils containing a high percentage of organic matter (greater than 6%) be avoided.

Crop injury may result if cold, wet weather follows planting of if CYCLONE 440EC is applied to a poorly prepared seedbed. With the return of favorable growing conditions (warm weather), the crop will usually recover and resume normal growth.

CYCLONE 440EC will stain (yellow) any objects it contacts. Keep all objects, etc. that are not to be stained well clear of the product and spray.

MIXING:

Put half the required volume of water in spray tank and start agitation. When using CYCLONE 440EC alone, add CYCLONE 440EC to partially filled tank and then add the remainder of the water. Mix thoroughly. When using CYCLONE 440EC in tank mixes with products such as atrazine or diuron, mix these products as indicated on the relevant label and add the CYCLONE 440EC last, then complete filling the tank. Maintain good agitation at all times until spraying is completed. If the spray mixture is allowed to settle, thorough agitation is essential to re-suspend the mixture before spraying is resumed. Note that when tank mixing CYCLONE 440EC with paraquat and glyphosate herbicides, the CYCLONE 440EC should be thoroughly mixed in the spray tank first, before adding a paraquat or glyphosate product.

APPLICATION METHOD:

Ground Application:

Use conventional sprayers with either mechanical or by-pass agitation. Flat fan nozzles should be used. Spray equipment should be correctly calibrated to ensure proper application. If applying CYCLONE 440EC in tank mix combination with atrazine or diuron, nozzle screens must be no finer than 50 mesh. Apply the recommended quantity of CYCLONE 440EC in 50-200 litres of water per hectare. When pre-emergence surface treatment is used, the higher rates of water are recommended.

Aerial Application:

Pre-plant soybeans, cotton, sunflowers, peanuts, navy beans, cow peas, mung beans, pigeon peas and post-plant, post flushed combine sown rice only.

Apply the recommended quantity of CYCLONE 440EC in 25-60 litres of water per hectare. It is essential that the equipment is correctly calibrated and an even spray pattern is obtained. It is essential that markers are used and an accurate swath width is maintained. Do NOT apply if wind speed is greater than 16 km/hour. Always spray with a crosswind in accordance with recommended flying practice.

Incorporation:

- (a) CYCLONE 440EC works best if thoroughly mixed with soil either mechanically or by irrigation or rainfall. The aim of incorporation is to produce an even band of herbicide to intercept germinating weed seeds.
- (b) Post-plant pre-emergence surface applications of CYCLONE 440EC alone, or as a tank mixture, are most effective in controlling weeds when adequate rainfall occurs or irrigation is applied within 7-10 days after treatment to achieve incorporation. If no rain or irrigation is received within 7-10 days, light mechanical incorporation is required for optimum weed control, except when used on maize, carrots and rice.

- (c) Maize is tolerant to CYCLONE 440EC either alone or in mixtures with atrazine if the seed germinates below the chemically treated band. Maize, carrots and rice are NOT tolerant to CYCLONE 440EC if it is in direct contact with the seed.

Cereal Seed Dressings

Some fungicidal seed dressings can shorten coleoptile length and this can affect emergence particularly if seed is sown too deep. When these cereal seed dressings are used in CYCLONE 440EC treated areas it is very important to ensure there is good seed depth control and to sow just below (1cm) the chemically treated band. Consult your local Department of Agriculture Agronomist for further advice.

Weather Conditions for Planting

Crop injury may result if cold weather follows planting. With the return of favorable growing conditions (warm weather), crops usually recover and resume normal growth. In cereals, prolonged cold wet conditions during germination and emergence can result in wheat or barley coleoptiles remaining in the treated band for an extended period. This can reduce emergence.

RESISTANT WEEDS WARNING

GROUP

D

HERBICIDE

CYCLONE 440EC HERBICIDE (CYCLONE) is a member of the dinitroaniline group of herbicides. CYCLONE has the inhibition of tubulin formation mode of action. For weed resistance management, CYCLONE is a Group D Herbicide. Some naturally-occurring weed biotypes resistant to CYCLONE and other Group D 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 CYCLONE or other Group D Herbicides.

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

COMPATIBILITY

Physical compatibility of CYCLONE 440EC has been tested with the following chemicals: Atrazine, diuron, simazine, prometryne, flumeturon, fluometuron plus prometryne, ametryne, paraquat, propanil, linuron, glyphosate and Ramrod SC. If tank mixing, observe the directions under mixing.

FOLLOWING CROPS

In the event of crop failure the soil should be cultivated to a minimum depth of 15cm to ensure any residues are evenly dispersed throughout the soil.

If a maize crop fails due to weather conditions or some other reason, maize can be replanted the same year without adverse effects, but seeding depth must be below the retilled area.

The following crops may be sown after a minimal interval of 2 months after application of CYCLONE 440EC:

Carrots, parsnips, parsley, celery, potatoes, peas, French beans, transplanted brassicas, transplanted lettuce, transplanted tomatoes and transplanted capsicums.

The following crops may be sown after a minimal interval of 5 months after application of CYCLONE 440EC:

Turnips, lettuce, radish, Brussels sprouts, cabbage, cauliflower, broccoli, onions, leeks, sweetcorn, pumpkins, squash, melons and cucumbers.

The following crops may be sown after a minimal interval of 12 months after application of CYCLONE 440EC:

Redbeet (beetroot), spinach, silverbeet and poppy.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under meteorological conditions or from spraying equipment, which could be expected to cause spray drift onto nearby susceptible plants, adjacent crops, crop lands or pastures.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Dangerous to fish and other aquatic life. DO NOT contaminate dams, rivers, drains or streams with chemical or used containers.

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemical 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 500mm 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.

Returnable Containers: Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

SAFETY DIRECTIONS

Harmful if swallowed. Will irritate eyes, nose and throat, and skin. Avoid contact with eyes and skin. Do not inhale vapour. When preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist (or

equivalent clothing), elbow-length nitrile gloves, and face shield or goggles. If product on skin, immediately wash area with soap and water. 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 131126). If swallowed, DO NOT induce vomiting. Give a glass of water.

MATERIAL SAFETY DATA SHEET.

For further information refer to the Material Safety Data sheet.

CONDITIONS OF SALE:

"ChemAg Pty Ltd shall not be liable for any loss, injury, damage or death whether consequential or otherwise whatsoever or howsoever arising whether through negligence or otherwise in connection with the sale, supply, use or application of this product. The supply of this product is on the express condition that the purchaser does not rely on ChemAg's skill of judgment in purchasing or using the same and every person dealing with this product does so at his own risk absolutely. No representative of ChemAg has any authority to add to or alter these conditions".

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