POISON

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

CHEMAG HALOXYFOP* 520 HERBICIDE

ACTIVE CONSTITUENT: 520g/L HALOXYFOP-P
present as the haloxyfop-P-methyl

GROUP A HERBICIDE

For the post-emergent control of a wide range of annual and perennial grass weeds in grain legume and oilseed crops, Lucerne, medic and clover pasture and seed crops, forestry, bananas, citrus, grapes, pineapples, pome and stone fruit, pyrethrum, tropical fruit and nut crops as specified in the Directions For Use.

IMPORTANT: READ THIS BOOKLET BEFORE USE.

APVMA Approval No: 59738/1005

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DIRECTIONS FOR USE

RESTRAINTS:

DO NOT apply to weeds which may be stressed (not actively growing) due to prolonged periods of extreme cold, moisture stress (waterlogged or drought affected), poor nutrition or previous herbicide treatment as reduced levels of control may result.

DO NOT spray if rain is likely to occur within one hour.

Table 1a. Winter crops Canola, Chickpeas, Faba beans, Field peas, Lentils, Linola, Linseed, Lupins, Lucerne, Vetch, Medic and Clover pastures or seed crops

WEEDS CONTROLLED	WEED GROWTH STAGE	RATE (mL/ha)		CRITICAL COMMENTS
		with Uptake Spraying Oil	with a non-ionic wetter	See GENERAL INSTRUCTIONS, Spraying oils/wetters sections.
Annual ryegrass	2 to 4 leaf	75	100	**FIELD PEAS AND CANOLA:** The only oil recommended for use with ChemAg Haloxyfop 520 is Uptake Spraying Oil. ChemAg Haloxyfop 520 + Lontrel 750 SG + Uptake Spraying Oil are compatible and selective to canola. This tank-mix is also compatible with atrazine and selective to triazine tolerant canola.
	Early tillering	100	100	
Barley grass Brome grass Paradoxa grass Volunteer cereals	2 to 4 leaf	50	75	**LUPINS AND FIELD PEAS:** Mixtures with Brodal® or simazine may cause crop yellowing and separate applications are recommended.
	Early tillering	75	100	
Wild oats WA,SA,Vic,Tas	2 to 4 leaf	37.5	50	**CHICKPEAS, FABA BEANS, LENTILS AND VETCH, LINOLA, LINSEED:** Broadleaf herbicides should not be added to ChemAg Haloxyfop 520. Apply ChemAg Haloxyfop 520 and broadleaf herbicides at least a week apart.
Southern and Central NSW	Early tillering	50	75	

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WEEDS CONTROLLED	WEED GROWTH STAGE	RATE (mL/ha)		CRITICAL COMMENTS
		with Uptake Spraying Oil	with a non-ionic wetter	
Wild oats	2 to 4 leaf	50	75	**LUCERNE, CLOVER OR MEDIC PASTURES:** If grazed or cut for hay immediately prior to treatment delay application until all grasses have fully expanded leaves. Use 75 mL + spraying oil or 100 mL + wetter/ha. (See GENERAL INSTRUCTIONS, Spraying Oils/wetters section). If silver grass (*Vulpia spp.*) is present in pasture, simazine should be tank mixed with the higher rate of ChemAg Haloxyfop 520 plus a non-ionic wetter.
Northern NSW & Qld	Early tillering	75	100	

Table 1b. Winter crop growth stage application windows

Crop	Crop Growth Stage
Lucerne, Medic and Clover pastures or seed crops	Apply from 2nd trifoliate leaf onwards. For *Erodium spp.* spraying, apply from cotyledon crop stage onwards.
Canola	Apply from 2nd leaf to prior to bud formation and stem elongation
Linola, Linseed	Apply from 5 cm to flowering
Chickpeas, Faba beans, Field peas, Lentils, Lupins, Vetch	Apply from 2nd leaf, 2nd node or 2nd branch to prior to flowering

Table 2a. Lucerne, Medic and Clover seed crops and pastures. See table 1b for crop stages

WEEDS CONTROLLED	WEED GROWTH STAGE	RATE (mL/ha) with Uptake Spraying Oil	CRITICAL COMMENTS
Prairie grass (Bromus catharticus)	Up to early tillering	100	See GENERAL INSTRUCTIONS, Spraying oils/wetters section. Use lower rate when growing conditions and crop or pasture competition are good and when weed populations are below 100 plants/m^2. Use the higher rate when weed populations are above 100 plants/m^2 or when crop or pasture competition is poor. **NOTE:** Storksbill may not be controlled if simazine or Broadstrike* are tank-mixed with ChemAg Haloxyfop 520. **LUCERNE, CLOVER OR MEDIC PASTURES:** If grazed or cut for hay immediately prior to treatment delay application until all grasses have fully expanded leaves. Use 75 mL + spraying oil or 100 mL + wetter/ha. (See GENERAL INSTRUCTIONS, Spraying Oils/wetters section). If silver grass (*Vulpia spp.*) is present in pasture, simazine should be tank mixed with the higher rate of ChemAg Haloxyfop 520 plus a non-ionic wetter.
Musky or femy leaf Storksbill: (*Erodium moschatum*) Common Crowsfoot or Common Storksbill (*Erodium cicutarium*)	Up to 5 leaf or 5 cm diameter	50 - 75	
Long or shiny leaf storksbill (*E.botrys*)	Up to 8 leaf or 5 cm diameter	75 - 100	

Table 2b. Lucerne, Medic and Clover seed crops only – not to be used for stockfeed. See table 1b for crop stages

Couch grass (suppression), Rhodes grass (control)	Tillering seedings	150 + 150	For best suppression of couch or control of Rhodes grass, make 2 application of ChemAg Haloxyfop 520 2 – 4 weeks apart. Time second application to coincide with tillering stage of weeds and just after irrigation or significant rain. Only treat actively growing weeds, which are not moisture stressed. Use these rates for control of couch and Rhodes grass.
Couch grass (control) Rhodes grass (control)	Established stands	400 – 800	

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Table 3a. Summer crops – Cotton, Cowpea, Lucerne, Mung bean, Navy beans, Peanuts, Soybeans, Sunflowers.

WEEDS CONTROLLED	WEED GROWTH STAGE	RATE (mL/ha) with Uptake Spraying Oil	CRITICAL COMMENTS
Australian millet	2 leaf to tillering up to 15 cm	150	See GENERAL INSTRUCTIONS, Spraying oils/wetters section. **NAVY BEANS, PEANUTS, SOYBEANS:** For broadleaf weed control, ChemAg Haloxyfop 520 at 150 mL/ha plus wetter may be tank mixed with Blazer® (except on navy beans) or Basagran® Tank mixtures may cause transient leaf spotting on the crop but do not normally affect yield. DO NOT tank mix broadleaf herbicides with ChemAg Haloxyfop 520 if grasses have begun tillering or if the grasses are under moisture stress. DO NOT add Uptake Spraying Oil when mixing with Blazer or Basagran. DO NOT use Blazer or Basagran tank-mixes on cowpea.
Barnyard grass	2 to 5 leaf	100	
	Tillering up to 15 cm	150	
Crowsfoot grass Green panic Johnson grass (rhizome)	2 leaf to tillering up to 15 cm	150	
Johnson grass (seedling) Liverseed grass (seedling) Mossman river grass	2 to 5 leaf	100	
	Tillering and up to 15 cm	150	
Summer grass	2 leaf to tillering up to 15 cm	150	
Volunteer cereals	2 to 4 leaf	100	
	Tillering up to 15 cm	150	

Table 3b. Summer crop growth stage application windows

Crop	Crop Growth Stage
Lucerne	Apply from 2nd trifoliate leaf onwards
Cowpea, Mung beans, Navy beans, Soybeans	Apply from 2nd leaf to flowering
Peanuts	Apply from 2nd leaf to pegging
Cotton	Apply from 2nd leaf to before the onset of flowering
Sunflowers	Apply from 2nd leaf to head initiation

Table 4. Annual and Perennial grasses and *Erodium spp.* in Orchard, Vine and Plantation crops, forestry, and pyrethrum.

CROPS	CROP GROWTH STAGE	WEEDS CONTROLLED	WEED GROWTH STAGE	RATE (mL/ha) with Uptake Spraying Oil	CRITICAL COMMENTS
Orchard, vine and plantation Crops including: Apples Avocado Banana Blueberry Citrus Custard apple Feijoa Grapevines Guava Kiwifruit Litchi (Lychee) Longan Mango Nashi Nut trees Passionfruit Paw paw Pear Persimmon Pineapple Rambutan Stone fruit	All growth stages	<u>Perennial grasses:</u> Couch Rhodes grass Slender rats tail grass	Established stands	400 – 800	See GENERAL INSTRUCTION, Spraying oils/wetters section. Spray should be directed to the base of the tree or vine avoiding contact with fruit and foliage. **Spot spray:** Use 25 mL to 50 mL/100 L of water. Use higher rate on tillering mature grasses. **Annual Grasses:** Where treated in association with perennial grasses, these annual grasses will be controlled.
		Buffel grass Green panic Johnson grass Kikuyu *Paspalum spp* *Stania spp*	Vegetative to early tillering	200	
			Late tillering	400	
		<u>Annual grasses:</u> Annual ryegrass Barley grass Barnyard grass Brome grass Crowsfoot grass Lesser canary grass Liverseed grass Mossman river grass Paradoxa grass Summer grass Volunteer Cereals Wild oats	2 leaf to tillering	200	

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CROPS	CROP GROWTH STAGE	WEEDS CONTROLLED	WEED GROWTH STAGE	RATE (mL/ha) with Uptake Spraying Oil	CRITICAL COMMENTS
Forestry: Pinus radata Eucalyptus spp.	All growth stages	*see previous page*	2 leaf to tillering	200	*see previous page continued*
Forestry: Pinus pineaster		Annual grasses as above	Vegetative to tillering	125 – 250	
Pyrethrum		Barley grass Brome grass Rope twitch Barnard grass *Erodium spp.* Volunteer cereals	Vegetative to tillering	100 - 250	**Forestry:** For annual grasses apply lowest rate to newly emerged grasses, increasing the rate as they develop. **Pyrethrum Tasmania only:** For *Erodium spp* apply 75 – 100 mL/ha if the main weed is *E.botrys*. Use 50 –75 mL/ha if either *E.cicutarium* or *E.moschatum* are the main weeds.

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Table 5. ChemAg Haloxyfop 520 and Select Herbicide tank-mixes – Canola, Chickpeas, Faba beans, Field peas, Lupins, Lentils

WEEDS CONTROLLED	WEED GROWTH STAGE	RATE (mL/ha)		CRITICAL COMMENTS
		ChemAg Haloxyfop 520	Select Herbicide	
FOP/DIM susceptible Annual ryegrass + Volunteer barley Volunteer wheat Brome grass Wild Oats Barley grass Phalaris	2 to 4 leaf	25	150	See GENERAL INSTRUCTIONS, Spraying oils/wetters section. Use Uptake spraying oil at 500 mL/100L or Hasten at 1L/100L. Apply at the some crop growth stages as those in Table 1b Winter crops. **Lentils:** Apply up to 7 node-early branching crop growth stages only. **Lupins:** Not for Qld
	Early tillering	38	150	
FOP resistant Annual ryegrass + Volunteer barley Volunteer wheat Brome grass Wild oats Barley grass Phalaris	2 to 4 leaf	25	200	
	Early tillering	38	250	

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

HARVESTING WITHHOLDING PERIODS

NOT REQUIRED WHEN USED AS DIRECTED FOR:

Canola, chickpeas, cotton, cowpea, faba beans, field peas, lentils, linola, linseed, lupins, mung beans, navy beans, peanuts, soybeans, sunflowers or vetch.

DO NOT HARVEST FOR:

Medic and clover seed crops: **7 DAYS AFTER APPLICATION**

STOCK FOOD WITHHOLDING PERIODS:

DO NOT GRAZE OR CUT FOR STOCK FOOD FOR:

Canola, chickpeas, cotton, cowpea, faba beans, field peas, lentils, linola, linseed, lupins, navy beans, peanuts, soybeans, sunflowers and vetch:	**28 DAYS AFTER APPLICATION**
Lucerne:	**21 DAYS AFTER APPLICATION**
Medic and clover pasture:	**7 DAYS AFTER APPLICATION**

COTTON GIN TRASH MUST NOT BE FED TO ANIMALS.

GENERAL INSTRUCTIONS

Mixing

- Add water to the spray tank to 10 cm above the level of agitation and ensure the agitation device is working vigorously. (There must be a minimum of 100 L of water in the tank before any pesticide is added.)
- If tank mixing, firstly, add any soluble liquid formulations (e.g. LONTREL* Herbicide) and allow agitation for approximately one minute.
- Then add ChemAg Haloxyfop 520 at the point where agitation is strongest. (Do not add ChemAg Haloxyfop 520 through a strainer or sieve). Allow further agitation for one minute.
- Half fill the spray tank.

- If using wettable powder or water dispersible granules, or other emulsifiable concentration formulations (e.g. LORSBAN* 750 WG or LEMAT®, these should be **added after the ChemAg Haloxyfop 520** to the half full spray tank ensuring vigorous agitation.

- Finally add Uptake* Spraying Oil or approved alternate spraying oil/wetter. (see section on spraying oils/wetters) and continue filling the tank to the required volume maintaining agitation at all times.

- Only mix sufficient solution for immediate use. ChemAg Haloxyfop 520 and any other tank mixes should be applied immediately for best results.

Spraying oils/wetters

➢ **Spraying Oils:** It is essential to add an adjuvant to ChemAg Haloxyfop 520. Best results will be achieved with Uptake Spraying Oil at 0.5 L/100 L of spray solution. Alternatively, other oils plus a non-ionic wetter may also be used. When other crop spraying oils are used, mix at 1.0 L/100 L and add a non-ionic wetter (surfactant) at 200 mL/100L of spray solution. **Use of oil is not always recommended.** See Critical Comments for specific situation recommendations.

➢ **Non-ionic Wetter:** When Uptake or other oils are not used, a 100% concentrate non-ionic wetting agent such as BS-1000 at 200 mL/100 L must be used along with the higher rate of ChemAg Haloxyfop 520 as specified in the Directions For Use.

Where water volumes or less than 50 L/ha are used, DO NOT use less than 250 mL/ha of Uptake or 500 mL/ha for oils other than Uptake or less than 100 mL/ha of wetter.

CANOLA, LUCERNE, MEDIC AND CLOVER PASTURES AND SEED CROPS:

When tank mixing ChemAg Haloxyfop 520 with Lontrel herbicides (canola only) or Broadstrike (Lucerne, clover and medics), use Uptake Spraying Oil with the lower rates of ChemAg Haloxyfop 520 or a wetting agent with the higher rates of ChemAg Haloxyfop 520 unless otherwise specified. When mixing ChemAg Haloxyfop 520 with other broadleaf herbicides on these crops. DO NOT use an oil use a wetter instead.

FIELD PEAS AND CANOLA:
The oil recommended is Uptake Spraying Oil. Hasten is also recommended for use with tank-mixtures or ChemAg Haloxyfop 520 and Select Herbicide.

For canola, ChemAg Haloxyfop 520 + Lontrel 750SG + Uptake Spraying Oil are compatible and selective to canola. This tank-mixture is also compatible with atrazine or simazine and selective to triazine tolerant canola.

NAVY BEANS, PEANUTS, SOYBEANS:
When mixing with Blazer or Basagran DO NOT add spraying oil to these mixtures. DO NOT use these tank-mixes on cowpea.

Compatibility:
Ground use only: ChemAg Haloxyfop 520 Herbicide can be tank mixed with:

Insecticides: dimethoate, endosulfan, Lorsban* 500 EC Insecticide, Lorsban* 750 WG Insecticide, omethoate

Herbicides: atrazine, Basagran®, Blazer®, Broadstrike* Herbicide
Lontrel* Herbicide, Lontrel* 750SG
MCPA ester (LVE) **DO NOT** exceed 700 mL/ha of MCPA LVE
Oryzalin, Select® Herbicide, simazine, Starane® 200 Herbicide

Fungicides: Dithane DF*, Dithane Rainshield

Trace elements: magnesium sulphate, zinc sulphate

ChemAg Haloxyfop 520 Herbicide is NOT COMPATIBLE with 2,4-D or MCPA as sodium or amine salts.

Aerial use: No product other than a recommended crop oil or wetter should be mixed with ChemAg Haloxyfop 520 Herbicide when applied by air except for addition or Lontrel Forestry Herbicide for use in forestry and Lontrel 750SG for use in canola only.

Application
Apply ChemAg Haloxyfop 520 Herbicide in sufficient water to obtain good coverage. It should be applied by an accurately calibrated ground rig or aircraft delivering droplets with a VMD of 200-300 microns.

The following spray volumes are recommended.

Ground application	50-150 L/ha
Aerial application	30 L/ha minimum

Use higher water volumes in orchards and in dense crops where the weeds may be shield by the crop canopy.

CLEANING SPRAY EQUIPMENT

If broadleaf herbicides, particularly sulfonylureas, have been used in the spray equipment at any time prior to ChemAg Haloxyfop 520, particular care should be taken to follow the directions on the relevant broadleaf herbicide label for equipment cleaning, or damage to susceptible crops may occur.

After using ChemAg Haloxyfop 520, empty the tank completely and drain the whole system. Thoroughly wash inside the tank using a pressure hose, drain the tank and clean any filters in the tank, pump, line and nozzles.

To rinse. After cleaning the tank as above, quarter fill the tank with clean water and circulate through the pump, lines, hoses and nozzles. Drain and repeat the rinsing procedure twice.

To decontaminate. Before spraying cereals, maize, sorghum or other sensitive crops, wash the tank and rinse the system as above. Then quarter fill the tank and add an alkali detergent (e.g. SURF®, Cold Water SURF Concentrate®, DynamoMatic Concentrate®, OMO® or DRIVE®) at 500 mL/100 L or water or the powder equivalent at 500 g/100 L of water, and circulate throughout the system for at least fifteen minutes. Drain the whole system. Remove filters and nozzles and clean them separately. Finally flush the system with clean water and allow draining. Chlorine based cleaners are not recommended.

Rinse water should be discharged onto a designated disposal area, or if this is unavailable, onto unused land away from desirable plants and water sources.

RESISTANT WEEDS WARNING GROUP A HERBICIDE

ChemAg Haloxyfop 520 Herbicide is a member of the aryloxyphenoxy propionate group of herbicides. The product has the acetyl CoA carboxylase inhibitor mode of action. For weed resistance management ChemAg Haloxyfop 520 Herbicide is a Group A herbicide.

Some naturally occurring weed biotypes resistant to the product and other inhibitors of acetyl CoA carboxylase 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. The product or other inhibitors of acetyl CoA carboxylase will not control these resistant weeds.

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

Strategies to minimize the risk of herbicide resistance are available. Contact your farm chemical supplier, consultant, local Department of Agriculture, or local ChemAg representative.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

- ChemAg Haloxyfop 520 Herbicide damages cereals and grasses.
- DO NOT apply under weather conditions, or from spraying equipment, that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.
- Cereal crops or grasses planted within twelve weeks of application may be damaged by the residual effects of ChemAg Haloxyfop 520 Herbicide, particularly on light and red soils.

PROTECTION OF LIVESTOCK

- DO NOT graze or cut treated crops for stock food except as specified under withholding periods.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

- ChemAg Haloxyfop 520 Herbicide is toxic to fish
- DO NOT contaminate streams, rivers or waterways with the chemical or used container.

STORAGE AND DISPOSAL

- Store in the closed original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.
- DO NOT store near feedstuffs, fertilizers or seeds.
- Triple rinse or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point.
- If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SMALL SPILL MANAGEMENT

Wear protective equipment (see SAFETY DIRECTIONS). Apply absorbent material such as earth, sand, cat litter or clay granules to the spill. When absorption is complete, sweep up material and contain in a refuse vessel for disposal (see STORAGE AND DISPOSAL section). If necessary wash the spill area with an alkali detergent and water and absorb this wash liquid for disposal as described above.

SAFETY DIRECTIONS

- Harmful if swallowed
- Will irritate the eyes and skin
- Avoid contact with the eyes and skin
- When preparing spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles.
- After each day's use, wash gloves, face shield or goggles and contaminated clothing.
- Wash hands after use.

FIRST AID

- If poisoning occurs, contact a doctor or Poisons Information Centre (Phone: 13 11 26).
- If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

MATERIAL SAFETY DATA SHEET

Additional information is listed on the Material Safety Data Sheet for ChemAg Haloxyfop 520 Herbicide, which is available from Imtrade Australia request.
Call Customer Service Toll Free on: 1800 171 799.

CONDITIONS OF SALE

"Imtrade Australia 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 Imtrade's skill or judgement in purchasing or using the same and every person dealing with this product does so at his own risk absolutely. No representative of Imtrade has any authority to add to or alter these conditions."

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