Product Name: Sabakem Moxypyr Herbicide
APVMA Approval No: 95518/145928

Label Name:	Sabakem Moxypyr Herbicide
Signal Headings:	READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Constituent Statements:	ACTIVE CONSTITUENTS: 33 g/L IMAZAMOX present as the ammonium salt 15 g/L IMAZAPYR present as the ammonium salt
Mode of Action:	GROUP 2 HERBICIDE
Statement of Claims:	For the early post-emergence control of certain annual grass and broadleaf weeds as part of the Clearfield^ Production System for Clearfield Plus wheat, Clearfield barley, and Clearfield canola, as specified in the DIRECTIONS FOR USE section of this label.
Net Contents:	1L to 1000L
Restraints:	This section contains file attachment.
Directions for Use:	This section contains file attachment.
Other Limitations:	
Withholding Periods:	WITHHOLDING PERIODS GRAZING CLEARFIELD PLUS WHEAT AND CLEARFIELD BARLEY: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 4 WEEKS AFTER APPLICATION. CLEARFIELD CANOLA: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 5 WEEKS AFTER APPLICATION.

	HARVEST ALL CROPS: NOT REQUIRED WHEN USED AS DIRECTED.

Trade Advice:	

General Instructions:	This section contains file attachment.

Resistance Warning:	RESISTANT WEEDS WARNING GROUP 2 HERBICIDE Sabakem Moxypyr Herbicide is a member of the imidazolinone group of herbicides. The product has the inhibitors of acetolactate-synthase (ALS) mode of action. For weed resistance management, the product is a Group 2 herbicide. Some naturally-occurring weed biotypes resistant to the product and other Group 2 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 this product or other Group 2 herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Sabakem Pty Ltd accepts no liability for any losses that may result from failure of this product to control resistant weeds.

Precautions:	RE-ENTRY DO NOT re-enter treated areas until spray has dried. If re-entry is necessary wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing should be laundered after each days use.

Protections:	PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS 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. PROTECTION OF LIVESTOCK Sabakem Moxypyr Herbicide is of low hazard to bees. PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT DO NOT contaminate streams, rivers or watercourses with the chemical or used containers.

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. Refillable containers Empty containers fully into application equipment. Close all valves and return to point of supply for refill or storage.

Safety Directions:	May irritate the eyes and skin. Avoid contact with eyes and skin. When using together with other products consult their label safety directions. When opening the container and preparing spray, wear cotton overalls (or equivalent clothing) buttoned to the neck and wrist and elbow-length chemical resistant gloves. Wash hands after use. After each day's use, wash gloves and contaminated clothing.

First Aid Instructions:	If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26, New Zealand 0800 764 766.

First Aid Warnings:	

RESTRAINTS

Apply ONLY to certified Clearfield Plus wheat, Clearfield barley and Clearfield canola varieties with the Clearfield technology, excluding Clearfield STL and Clearfield JNZ.

DO NOT apply to conventional or other herbicide tolerant canola, wheat, and barley varieties.

DO NOT apply to crops that are stressed due to conditions such as waterlogging, too little moisture, frost, disease or nutritional disorders.

DO NOT apply by aircraft.

DO NOT apply if rain is expected within 2 hours of application.

DO NOT apply more than once per season to any one crop.

DO NOT use in Clearfield Plus wheat crops in tank mix or sequentially with diuron, sulfonylureas, or sulfonamides.

SPRAY DRIFT RESTRAINTS

Specific definitions for terms used in this section of the label can be found at www.apvma.gov.au/spraydrift

DO NOT allow bystanders to come into contact with the spray cloud.

DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. The buffer zones in the relevant buffer zone table/s below provide guidance but may not be sufficient in all situations. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.

DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.

DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.

DO NOT apply during surface temperature inversion conditions at the application site.

DO NOT apply by Boom Sprayer unless the following requirements are met

- Minimum distances between the application site and downwind sensitive areas (see 'Mandatory downwind buffer zones' section of the following table titled 'Buffer zones for boom sprayers') are observed
- Spray droplets not smaller than a **MEDIUM** spray droplet size category

Buffer Zones for Boom Sprayers

Application Rate	Mandatory downwind buffer zones	
	Natural Aquatic Areas	Vegetation Areas
Up to maximum label rate	50 metres	5 metres

DIRECTIONS FOR USE

CROP USE OR SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Clearfield Plus wheat DO NOT use on CL STL and CL JNZ wheat varieties. **Clearfield barley**	Brome *(Bromus diandrus and B. rigidus*), Barley (*Hordeum vulgare*), Barley grass (*Hordeum leporinum*), Indian hedge mustard (*Sisymbrium orientale*), Muskweed (*Myagrum perfoliatum*), Oat (*Avena sativa*), Triticale (*Triticosecale* spp.), Wheat (*Triticum aestivum*) – non **Clearfield** varieties, Wild oat (*Avena fatua*), Wild radish (*Raphanus raphanistrum*), Wild turnip (*Brassica tournefortii)*	375-750 mL/ha plus Smart Accel (or equivalent) at 0.5 L/100 L spray volume	NOT for use on **Clearfield** wheat varieties **Clearfield** STL and **Clearfield** JNZ. Apply to Clearfield Plus wheat crops from the 3 leaf stage to 1st node stage (Z31). Apply to Clearfield barley crops from the 5 leaf stage to 1st node stage (Z31). DO NOT apply to Clearfield Plus wheat or Clearfield barley after the 1st node stage (Z31). Applications should be targeted at grass weeds when the majority are in the 2-4 leaf stage and only when within the recommended crop stages. Application to multi-tillered crops may impair weed control because of poor contact and coverage of weeds. Tank mixes with Clopyralid 600 Herbicide at 75 mL/ha will provide control of composite and legume weeds. Tank mixes with MCPA 570 LVE Herbicide at 500 mL/ ha will provide control of composite and brassicaceous weeds. The control of brassicaceous weeds will depend on the status of Group 2 resistance in the population. The addition of MCPA 570 LVE will improve control and provide an additional mode of action for resistance management. If other weeds require control, apply appropriate herbicides at least two weeks before or after Sabakem Moxypyr herbicide and only when signs of regrowth or renewed vigour appear, otherwise the effects of the early treatment may affect the performance of the subsequent treatment. See compatibility for full tank mix partners.
	Annual ryegrass (Lolium *rigidum*), Dense flower fumitory *(Fumaria densiflora),* Marshmallow (*Malva parviflora*), Sub clover (*Trifolium subterraneum*), **Suppression** Bedstraw species. (*Galium tricornutum* and *G.aparine*), Doublegee (*Emex australis*), Silver grasses (*Vulpia bromoides* and *V. myuros*)	600-750 mL/ha plus Smart Accel (or equivalent) at 0.5 L/100L spray volume	Weed species will either be controlled or suppressed. In both cases, surviving plants will be stunted and will be uncompetitive with the crop, and seed set will be prevented or greatly reduced. The control of annual ryegrass varies from excellent to poor depending on the status of Group 2 resistance in the population and environmental conditions. Where the population is expected to exceed 200 plants/m^2 or a high level of control is required, or the ryegrass is known to be resistant or thought to be developing resistance, an application of a suitable pre-emergent should be made prior to sowing. A follow up grass selective herbicide may also be necessary.

CROP USE OR SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Canola varieties with **Clearfield** technology **only**	Indian hedge mustard (*Sisymbrium orientale*), Muskweed (*Myagrum perfoliatum*), Wild radish (*Raphanus raphanistrum*), Wild turnip (*Brassica tournefortii*)	300–500 mL/ha plus Smart Accel (or equivalent) at 0.5 L/100L spray volume	**Read Follow Crop comments and restrictions on the label prior to use.** Apply to crop at the 2 to 6 leaf stage. DO NOT apply after the 6 leaf stage. Apply to actively growing weeds in the 3-leaf to 2-tiller stage and broadleaf weeds in the 2 to 6 leaf stage. Use the higher rate when weed numbers are high or towards the upper end of the recommended growth stages, or when the crop is at the 5 to 6 leaf stage to ensure better contact and coverage. If other weeds require control,apply appropriate herbicides at least two weeks after **Sabakem Moxypyr Herbicide** and only when signs of regrowth or renewed vigour appear, or the effects of **Sabakem Moxypyr Herbicide** may affect their performance.
	As above plus: Capeweed (*Arctotheca calendula*), Field pea (*Pisum sativum*), Narrow leaf lupin (*Lupinus angustifolius*), Sub clover (*Trifolium subterraneum*)	300-500 mL/ha plus Clopyralid 600 Herbicide at 75 to 150 mL/ha plus Smart Accel (or equivalent) at 0.5 L/100L spray volume	Refer to critical comments for 300 to 500 mL/ha alone. Clopyralid 600 Herbicide aids in the control of legume and composite weed species. Refer to the Clopyralid 600 Herbicide label. Use rates above 75 mL/ha when these weeds are primary weeds in the paddock and when required by their growth stage. Clopyralid 600 Herbicide above 75 mL/ha can slightly impair grass control. The addition of Clopyralid 600 Herbicide does not affect the control of wild radish and wild turnip. (Refer to the Compatibility section of this label and the Clopyralid 600 Herbicide label for further details of use).
	Non-**Clearfield** Barley (*Hordeum vulgare*), Barley grass (*Hordeum leporinum*), Great brome (*Bromus diandrus*), Indian hedge mustard (*Sisymbrium orientale*), oat (*Avena sativa*), Rigid brome (*Bromus rigidus*), Marshmallow (*Malva* parviflora), Sub clover (*Trifolium subterraneum*), Non-**Clearfield** wheat (*Triticum aestivum*), Wild oat (*Avena fatua*), Wild radish (*Raphanus raphanistrum*), Wild turnip (*Brassica tournefortii*) **Suppression only:** Annual ryegrass (*Lolium rigidum*), Bedstraw species (*Galium tricornutum* and *G. aparine*), Doublegee (*Emex australis*),	600-750 mL/ha plus Smart Accel (or equivalent) at 0.5 L/100L spray volume	Apply to crop at the 2 to 6 leaf stage. DO NOT apply after the 6 leaf stage. Apply to actively growing grass weeds in the 3-leaf to 2-tiller stage and broadleaf weeds in the 2 to 6 leaf stage. Use the higher rate when weed numbers are high or towards the upper end of the recommended growth stages, or when the crop is at the 5 to 6 leaf stage, to ensure better contact and coverage. Weeds will either be killed in high numbers (weeds controlled) or in moderate numbers (weeds suppressed). In both cases, surviving plants will be stunted and will be uncompetitive with the crop, and seed set will be prevented or greatly reduced. If other weed species require control, apply appropriate herbicides at least two weeks after Sabakem Moxypyr Herbicide and only when signs of regrowth or renewed vigour appear or the effects of Sabakem Moxypyr Herbicide may affect their performance. 3 The control of annual ryegrass varies from excellent to poor depending on the status of Group 2 resistance in the population and environmental conditions. Where the population is expected to exceed 200 plants per sqm, or a high level of control is required, or the ryegrass is known to be resistant or thought to be developing resistance, an application of a pre-emergent herbicide should be made prior to sowing. A tank mix with a grass selective herbicide may also be necessary.

CROP USE OR SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
	Silver grasses (*Vulpia bromoides* and *B. myuros*)		
	As above plus: Capeweed (*Arctotheca calendula*), Field pea (*Pisum sativum)*, Narrow leaf lupin (*Lupinus angustifolius*)	600-750 mL/ha plus Clopyralid 600 Herbicide at 75-150 mL/ha plus Smart Accel (or equivalent) at 0.5 L/100L spray volume	Refer to critical comments for 600 to 750 mL/ha alone. DO NOT apply after the 6 leaf stage. Clopyralid 600 aids in the control of legume and composite weed species. Refer to the Clopyralid 600 label. Use rates above 75 mL/ha when these weeds are primary weeds in the paddock and when required by their growth stage. Clopyralid 600 above 75 mL/ha can slightly impair grass control. The addition of Clopyralid 600 does not affect the control of other weeds controlled by Sabakem Moxypyr Herbicide (Refer to the Compatibility section of this label and the Clopyralid 600 label

GENERAL INSTRUCTIONS

Sabakem Moxypyr Herbicide is for use in Clearfield Plus wheat, Clearfield barley, and Clearfield canola. Varieties with Clearfield technology are those that have been bred specifically to be tolerant to Sabakem Moxypyr Herbicide.

Sabakem Moxypyr Herbicide is absorbed through the leaves, green stems and roots of susceptible weeds and moved from the point of contact throughout the plant. Weeds will either die or will remain stunted and will not compete with the crop. Symptoms of kill may take one to two weeks to develop with death occurring up to one month from treatment. Symptoms first appear at the growth points where young foliage becomes discoloured and distorted before dying.

Sabakem Moxypyr Herbicide is primarily a post-emergence product. Best results will be achieved when good contact and coverage of weeds occurs and weeds are actively growing. The product must be mixed with Smart Accel Spray Adjuvant (or equivalent) as per the Directions for Use.

Sabakem Moxypyr Herbicide also has some residual soil activity under good soil moisture conditions. Residual effects on weeds can be reduced when dry soil conditions follow application before the herbicide has moved to the root zone. Best results will be achieved when application is made to moist soil or if approximately 10 mm rain follows within several days of application.

Vigorous crop growth will assist in suppressing weeds not completely killed and those germinating later.

MIXING

Sabakem Moxypyr Herbicide is a soluble concentrate formulation. Pour the required amount of the product into a spray tank containing almost the total amount of water required. Mix thoroughly. If Sabakem Moxypyr Herbicide is added during filling, foaming may occur. If excessive foaming becomes a problem, add a silicone based antifoaming agent at the manufacturers recommended rate. Do NOT use a suction probe unless the antifoaming agent has already been added to the spray tank water. Consult your distributor for specific information on suitable antifoaming agents.

When tank mixing this product with other recommended compatible products, first add the other product(s) to the tank and mix thoroughly before adding Sabakem Moxypyr Herbicide.

Sabakem Moxypyr Herbicide may be applied in hard or soft water.

The product is corrosive to mild steel. Use ONLY stainless steel, fibreglass, plastic or plastic-lined containers for mixing, storage and application.

APPLICATION

DO NOT apply by aircraft.

Apply in minimum 70L water per hectare. When the crop is very leafy or when the total weed population exceeds 200 plants/m^2, apply in a minimum of 100L water per hectare to improve contact and coverage. Sabakem Moxypyr Herbicide should be applied a minimum of two hours before rainfall or irrigation. If tank-mixed with other products, follow recommendations for the mixing partner should these extend beyond two hours.

EQUIPMENT CLEAN-UP

Thoroughly flush all spray equipment with water following the use of Sabakem Moxypyr Herbicide and before use with other products. If tank-mixed with other products, also follow clean-up procedures recommended for the mixing partner.

COMPATIBILITY

Sabakem Moxypyr Herbicide is chemically compatible with the insecticide alpha-cypermethrin. It is also chemically and biologically compatible with the herbicides bromoxynil, bromoxynil + MCPA, clopyralid 300 and 600, MCPA LVE, MCPA DMA and tralkoxydim.

DO NOT tank mix with foliar fertilisers.

<u>Mixes with clopyralid in Clearfield Plus wheat and Clearfield barley</u>:

Tank mixes with clopyralid 600 at 150mL/ha will provide control of composite and legume weeds. Refer to clopyralid label.

<u>Mixes with clopyralid in Clearfield canola</u>:

Clopyralid aids in the control of legume and composite weed species, such as Annual Medics (*Medicago* spp.), Capeweed (*Arctotheca calendula*), Chickpea (*Cicer arietinum*), Faba bean (*Vicia faba*), Field pea (*Pisum sativum*), Lentil (*Lens culinaris*), Narrow leaf lupin (*Lupinus angustifolius*). Use rates above 150mL/ha when these weeds are primary weeds in the paddock and when required by their growth stage. Clopyralid 600 above 150mL/ha can slightly impair grass control. For Chickpea, Faba bean, Lentil: If targeting Chickpeas and Lentils up to 6 leaf stage and Faba beans up to 4 leaf stage, use a tank mix of Sabakem Moxypyr Herbicide with 250mL/ha clopyralid 600. The addition of clopyralid 600 does not affect the control of other weeds controlled by Sabakem Moxypyr Herbicide. Refer to the clopyralid 600 label.

BEST MANAGEMENT PRACTICE (BMP) PROGRAM

A detailed program has been developed that outlines sound agronomic and integrated weed management practices, designed to optimise the performance of the Clearfield Production Systems and minimise the potential for the development of herbicide resistance in weed populations.

Consultation on BMP should be undertaken with a Clearfield-accredited agronomist prior to use of Sabakem Moxypyr Herbicide in the Clearfield Production Systems for wheat, barley and canola. Implementation of the BMP is an essential part of herbicide resistance management.

FOLLOWING CROPS

This product is broken down in the soil by microbes in wet, aerobic conditions. Under conditions that do not favour breakdown, carry-over soil residues can affect susceptible follow crops. Normally safe residue levels may still affect follow crops when soil nutrition is low or marginal, when cold and very wet soil conditions prevail, or when soil pathogens or nematodes are present. As environmental and agronomic factors make it impossible to eliminate all risks associated with this product, rotational crop injury is always possible.

Note: when the intention is to grow cereals on Clearfield canola stubble (treated with Sabakem Moxypyr Herbicide) self-sown canola volunteers must be removed before they mature beyond 2-leaf, all macro and micro-nutrients must be maintained at levels necessary to grow the planned crops, and sulfonylureas must not be used.

The following minimum re-cropping intervals (months after application) should be observed.

Months after Application	Follow Crops
0	Clearfield Plus wheat, Clearfield wheat, Clearfield barley, Clearfield canola
10	Chickpeas, Faba beans, Field peas, Lucerne, Lupins, Pasture legumes, vetch, Oats, Triticale, Non-Clearfield Barley, Non-Clearfield Wheat
34	Conventional and other herbicide tolerant canola, All other crops

Non-Clearfield Barley, Oats, Triticale, Non-Clearfield Wheat:

The following additional requirements apply if it is intended to sow these cereals during the next winter season:

• DO NOT apply Sabakem Moxypyr Herbicide later than the end of August (no later than the end of July in WA).

• DO NOT use Sabakem Moxypyr Herbicide in areas where rainfall from spraying to sowing of cereals is expected to be below 150 mm (for 300 – 375 mL/ha use), 200 mm (for up to 500 mL/ha use) and 250 mm (for 600 – 750 mL/ha use).

• DO NOT use above 375 mL/ha in the Lower Great Southern region of Western Australia.

For all situations, if expected rainfall is not received following use of Sabakem Moxypyr Herbicide,

consult your local Sabakam representative before planting non-Clearfield cereals. In calculating rainfall actually received, place greater emphasis on rain received from application up to the end of Spring and lesser emphasis on break rains. If single isolated heavy summer and autumn falls and break rains are required to achieve rainfall targets, it may not be safe to sow non-Clearfield cereals within 10 months of application. Consult your local Sabakam representative for advice.

CROP SAFETY

This product may, in some circumstances, lead to transient crop yellowing and temporary slowing of growth of Clearfield Plus wheat, Clearfield barley and Clearfield canola but plants soon recover and yield is unaffected. This effect may be more pronounced when the product is used under poor growth conditions.

The Clearfield wheat varieties Clearfield STL and Clearfield JNZ have limited tolerance to Sabakem Moxypyr Herbicide. Application of Sabakem Moxypyr Herbicide to these wheat varieties can cause unacceptable injury especially under cold, wet conditions. Sabakem Moxypyr Herbicide should not be used on these varieties.

DO NOT use this product on any canola variety other than certified varieties with Clearfield technology. Extreme crop damage and/or death will result to conventional and other herbicide tolerant wheat and canola varieties.