# POISON

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

# Quadrant®

## Herbicide

**ACTIVE CONSTITUENTS:**

**10 g/L PICOLINAFEN**
**20 g/L DIFLUFENICAN**
**240 g/L BROMOXYNIL**
present as the OCTANOATE
**250 g/L MCPA**
present as the ETHYL HEXYL ESTER

**SOLVENT: 150 g/L N-METHYL-2-PYRROLIDONE**

**GROUP F | C | I HERBICIDE**

**Crops/Situations: Barley, Cereal Rye, Oats, Triticale, Wheat**
**Controls/Suppresses: A range of broadleaf weeds as per the Directions for Use**

Formulation type
Emulsifiable Concentrate
EC

ADAMA

adama.com

**CONTENTS: 1 L - 1000 L**

**DIRECTIONS FOR USE**
**Restraints:**
**DO NOT** apply to crops or weeds under stress due to disease or insect damage, nutrient deficiencies or other herbicide use.
**DO NOT** apply to frost-affected crops or weeds or if frosts are imminent.
**DO NOT** apply to crops or weeds that are stressed due to dry or excessively moist conditions, or excessively dry or moist conditions are expected post-application.
**DO NOT** apply if rain is expected within 4 hours or if heavy rains or storms are forecast within 2 days.
**DO NOT** apply with crop oils.
**DO NOT** apply to crops undersown with lucerne, clover or medics.
DO NOT apply by mister machines.
DO NOT irrigate to the point of runoff for at least 2 days after application.

**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 by a boom sprayer unless the following requirements are met:
- spray droplets not smaller than a **COARSE** spray droplet size category
- minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section) are observed.

**DO NOT** apply by aircraft unless the following requirements are met:
- spray droplets not smaller than a **COARSE** spray droplet size category
- for release heights 25% of wingspan or 25% of rotor diameter or lower above the target canopy, minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section) are observed.

**MANDATORY NO-SPRAY ZONES**

**DO NOT** apply if there are aquatic and wetland areas including aquacultural ponds, surface streams and rivers within **250 m** (for aerial application) or **20 m** (for ground application) downwind from the application area.

**DO NOT** apply if there are sensitive crops, gardens, landscaping vegetation, protected native vegetation or protected animal habitat downwind from the application area and within the **mandatory buffer zones** shown in Table 1 below.

**Table 1: Buffer zones for protection of the terrestrial environment**

| Wind speed range at time of application | Mandatory downwind buffer zone | |
|---|---|---|
| | Fixed-wing | Helicopter |
| **FOR AERIAL APPLICATION** | | |
| from 3 to 8 kilometres per hour | 350 m | 200 m |
| from 8 to 14 kilometres per hour | 500 m | 300 m |
| from 14 to 20 kilometres per hour | 550 m | 400 m |
| **FOR GROUND APPLICATION** | | |
| from 3 to 20 kilometres per hour | 15 m | |

| CROP | WEEDS CONTROLLED | WEED GROWTH STAGE | RATE/ha | CRITICAL COMMENTS |
|---|---|---|---|---|
| Barley, Cereal Rye, Oats, Triticale, Wheat | Wild Radish | Up to the 4 leaf stage and not more than 120 mm in diameter | 600 mL | **CROP STAGE**<br>**All Cereals**<br>Apply from 3 leaf to late tillering stage - Z13 to 28. Optimum results are achieved when sprayed at 3-5 leaf crop stage (generally 4-8 weeks post sowing) and before the crop canopy begins to close.<br><br>**Warning:**<br>QUADRANT® may cause transient crop effects/yellowing of cereals, with oats being potentially most sensitive. Higher rates may reduce the biomass of oaten hay crops. Application during temperatures above 20°C may significantly increase crop effects.<br>Before applying QUADRANT®, refer to the "Crop Tolerance" section of the General Instructions.<br><br>**WEED STAGE AND RATE SELECTION**<br>Apply when weeds are actively growing. In most situations the rate specified for each weed size will give satisfactory control.<br>QUADRANT® will not effectively control:<br>• regrowth of suppressed weeds;<br>• transplanted weeds;<br>• regrowth from rhizomes or roots;<br>• weeds growing under stress from previous herbicide applications.<br>Where a rate range is provided, higher rates are recommended for use on larger weeds within the specified size range, particularly when they dominate the weed stand. Higher rates can also provide faster burndown of emerged weeds, fewer surviving weeds, longer residual control (on susceptible weed species) and reduce weed seeds returning to the soil bank.<br>Higher rates of product (up to the maximum rate of application specified for that weed) may also be required under certain conditions such as:<br>• high crop and weed density;<br>• late season germinations;<br>• abnormal weed growth (including early flowering).<br>More crop effects can occur when applying higher rates and later in the application window. Lower rates control or suppress smaller weeds within the size range specified, but may result in less crop effect than higher rates.<br>Refer to "CROP STAGE" statement above and "Crop Tolerance" section of the General Instructions prior to applying QUADRANT®.<br><br>**APPLICATION**<br>Activity of this product will be reduced if weeds are stressed. Optimum results will be obtained if good soil moisture exists at and after application. Where crop or weed density is high, select the appropriate nozzles, spray quality and water volume to ensure good coverage of target weeds.<br><br>**WILD RADISH**<br>QUADRANT® can provide residual control of Wild Radish for up to 4 weeks after application. Effective residual activity of this product may be reduced where:<br>• rates lower than 800 mL/ha are used;<br>• dry conditions prevail;<br>• poor coverage of the soil surface is achieved;<br>• crop is planted in non-wetting sand;<br>• soils contain a high content of organic matter.<br>Optimum results will be obtained if good soil moisture exists at and after application.<br><br>**CLIMBING BUCKWHEAT, WIREWEED, FUMITORY AND DOUBLEGEE (SPINY EMEX)**<br>Suppression only may occur at the lower rate where high weed densities are present at application and/or conditions are not favourable for control.<br>Multiple herbicide applications may be required for control of Climbing Buckwheat. After applying QUADRANT®, an additional spray of a Climbing Buckwheat herbicide such as VORTEX® may be required to control survivors.<br>For Wireweed, Fumitory and Doublegee control, apply the lower rate on smaller plants with up to 2 leaves. Use higher rates where larger plants with up to 4 leaves dominate the population.<br>Where wireweed occurs in red soils of low fertility it has been found to be less susceptible. |
| | | Up to the 2 leaf stage and not more than 60 mm in diameter | 600 mL | |
| | | Up to the 6 leaf stage and not more than 150 mm in diameter | 800 mL | |
| | | Up to the 8 leaf stage and not more than 180 mm in diameter | 1.0 to 1.2 L | |
| | Matricaria / Globe Chamomile | Up to the 6 leaf stage | 1.0 L | |
| | Capeweed, Charlock, Crassula (Stonecrop), Hedge Mustard, Indian Hedge Mustard, Prickly Lettuce, Shepherd's Purse, Turnip Weed, Wild Turnip | Up to the 2 leaf stage and not more than 60 mm in diameter | 600 mL | |
| | | Up to the 4 leaf stage and not more than 120 mm in diameter | 800 mL | |
| | | Up to the 6 leaf stage and not more than 150 mm in diameter | 1.0 to 1.2 L | |
| | Amsinckia, Chamomile, Corn Gromwell, Fat Hen, Field Madder, Horned Poppy, Lesser Swinecress, Mexican Poppy, Mintweed, Saffron Thistle, Slender Thistle | Plants up to the 6 leaf stage but not more than 50 mm in diameter | 800 mL to 1.0 L | |
| | Mountain Sorrel, Three-horned bedstraw | Plants up to the 4 leaf stage | | |
| | Cleavers | 2-4 stem stage and 1-3 whorls of leaves per stem | | |
| | Toad Rush | Up to the 2 leaf stage | | |
| | Sorrel | | | |
| | Deadnettle | | | |
| | London Rocket | Up to the 5 leaf stage and not more than 120 mm in diameter | | |
| | Ward's Weed | | | |
| | Canola (rape) | Up to the 4 leaf stage | 600 mL | |
| | Purple Goosefoot | Up to the 6 leaf stage | | |
| | Fumitory, Doublegee (Spiny Emex), Hexham Scent (King Island Melilot), Paterson's Curse, Rough Poppy, Tree Hogweed, Wireweed | Plants up to the 4 leaf stage | 800 mL to 1.2 L | |
| | Climbing Buckwheat | Up to 2 leaves | 1.0 to 1.2 L | |
| | Cowvine, Common Sowthistle (Milk Thistle), Variegated Thistle | Up to 4 leaves | 1.2 L | |
| | Common Peppercress, Purple Calandrinia | Up to 6 leaves but not more than 50 mm in diameter | | |

| CROP | WEEDS CONTROLLED | WEED GROWTH STAGE | RATE/ha | CRITICAL COMMENTS |
|---|---|---|---|---|
| Barley, Cereal Rye, Oats, Triticale, Wheat | **SUPPRESSION OF THE FOLLOWING WEEDS** | | | ***Please see previous page*** |
| | Dock, Horehound, Hyssop Loosestrife, Marshmallow, Scarlet Pimpernel, Stemless Thistle, Vetch (tares) | Up to the 2 leaf Stage | 1.0 L | |
| | Chickweed, Fireweed, Iceplant, Mouse-eared Chickweed, Nightscented Stock, Peppercress, Skeleton Weed, Long Storksbill, Volunteer Lupins | Up to the 4 leaf stage | | |

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

**WITHHOLDING PERIODS**
**HARVEST:** **NOT REQUIRED WHEN USED AS DIRECTED.**
**GRAZING:** **DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 8 WEEKS AFTER APPLICATION.**

**WEED LIST**

| Common name | Scientific name |
|---|---|
| Amsinckia | *Amsinckia* spp |
| Canola (rape) | *Brassica napus* |
| Capeweed | *Arctotheca calendula* |
| Chamomile | *Matricaria matricarioides* |
| Charlock | *Sinapis arvensis* |
| Chickweed | *Stellaria media* |
| Cleavers | *Galium aparine* |
| Climbing Buckwheat | *Fallopia convulvulus* |
| Common Peppercress | *Lepidium hyssopifolium* |
| Common Sowthistle (milk thistle) | *Sonchus oleraceus* |
| Corn Gromwell | *Buglossoides arvense* |
| Cowvine | *Ipomoea lonchophylla* |
| Crassula (Stonecrop) | *Crassula* spp. |
| Deadnettle | *Lamium amplexicaule* |
| Dock | *Rumex* spp. |
| Doublegee (Spiny Emex) | *Emex australis* |
| Fat Hen | *Chenopodium album* |
| Field Madder | *Sherardia arvensis* |
| Fireweed | *Senecio* spp. |
| Fumitory | *Fumaria* spp. |
| Hedge Mustard | *Sisymbrium officinale* |
| Hexham Scent (King Island Melilot) | *Melilotus indicus* |
| Horehound | *Marrubium vulgare* |
| Horned Poppy | *Glaucium flavum* |
| Hyssop Loosestrife | *Lythrum hyssopifolia* |
| Iceplant | *Mesembryanthemum* spp. |
| Indian Hedge Mustard | *Sisymbrium orientale* |
| Lesser Swinecress | *Coronopus didymus* |
| London Rocket | *Sisymbrium irio* |
| Long Storksbill | *Erodium botrys* |
| Marshmallow | *Malva parviflora* |

| Common name | Scientific name |
|---|---|
| Matricaria (Globe chamomile) | *Oncosiphon piluliferum* |
| Mexican Poppy | *Argemone mexicana* |
| Mouse-eared Chickweed | *Cerastium glomeratum* |
| Night-scented Stock | *Matthiola longipetala* |
| Mintweed | *Salvia reflexa* |
| Mountain Sorrel | *Oxalis acetosella* |
| Paterson's Curse | *Echium plantagineum* |
| Peppercress | *Lepidium spp.* |
| Prickly Lettuce | *Lactuca serriola* |
| Purple Calandrinia | *Calandrinia menziesii* |
| Purple Goosefoot | *Scleroblitum atriplicinum* |
| Rough Poppy | *Papaver hybridum* |
| Saffron Thistle | *Carthamus lanatus* |
| Scarlet Pimpernel | *Anagallis arvensis* |
| Shepherd's Purse | *Capsella bursa-pastoris* |
| Skeleton Weed | *Chondrilla juncea* |
| Slender Thistle | *Corduus tenuiflorus, C. pycnocephalus* |
| Sorrel | *Rumex* spp. |
| Stemless Thistle | *Onopordum acaulon* |
| Three-horned Bedstraw | *Galium tricornutum* |
| Toad Rush | *Juncus bufonius* |
| Tree Hogweed | *Polygonum patulum* |
| Turnip Weed | *Rapistrum rugosum* |
| Variegated Thistle | *Silybum marianum* |
| Vetch (Tares) | *Vicia sativa* |
| Volunteer Lupins | *Lupinus* spp. |
| Ward's Weed | *Carrichtera annua* |
| Wild Radish | *Raphanus raphanistrum* |
| Wild Turnip | *Brassica tournefortii* |
| Wireweed (Hogweed) | *Polygonum aviculare* |

**GENERAL INSTRUCTIONS**

**RESISTANT WEEDS WARNING**

GROUP F C I HERBICIDE

QUADRANT® Herbicide is a member of the pyridinecarboxamide, nitrile and phenoxy groups of herbicides and acts by inhibiting carotenoid biosynthesis at the phytoene desaturase step (PDS inhibitors), inhibiting photosynthesis at photosystem II (PS II inhibitors) and disrupting plant cell growth. For weed resistance management QUADRANT® is a Group F, Group C and Group I herbicide. Some naturally occurring weed biotypes resistant to QUADRANT® and other Group F, C and I 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 QUADRANT® or other Group F, Group C or Group I herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Adama Australia accepts no liability for any losses that may result from the failure of QUADRANT® to control resistant weeds.

**CROP TOLERANCE**

***All cereals***

After application some transient crop yellowing may occur. This usually appears as yellow or white banding on leaves. Provided the crop is not under stress from pre-emergent herbicide, root disease, insect damage, frost, dry or excessively moist conditions, the development of the crop and subsequent growth will be unaffected. Crop damage can be increased on highly alkaline sands or loams especially where free lime is present.

***Oats***

QUADRANT® can cause significant crop effects in oats. In addition to yellowing, crop scorch and a reduction in vigour can occur in oats, particularly if the application is delayed to later stages of crop growth. If applying QUADRANT® to oat crops grown for hay, it is recommended that small weeds are targeted with the lower rates (where available) earlier in the application window to minimise the impact of crop effects.

**SUBSEQUENT CROPS**

To reduce effect on subsequent susceptible crops (e.g. canola), ensure thorough cultivation of soil prior to the sowing of these crops.

**MIXING**

To ensure even mixing, half fill the spray tank with clean water and add the required amount of product. Agitate thoroughly then add the remainder of the water. Agitate again before spraying commences. Reseal part-used product container immediately after use. Spray mixtures containing QUADRANT® should not be left to stand overnight. Prolonged periods of exposure to cold temperatures could result in settling out of the product in the mixture.

**WARNING**

The rubber components present in some spraying units may be affected by exposure to the solvents in QUADRANT® and some other agricultural products. To reduce this risk it is recommended that the spray unit be thoroughly washed with a boom cleaner and fresh water after use. Contact the spray unit manufacturer to determine the suitability of the rubber components for use with agricultural products.

**COMPATIBILITY**

DO NOT use crop oils with QUADRANT® or with QUADRANT® tank mixtures with other products in cereals. As formulations of other manufacturer's products are beyond the control of Adama Australia, all mixtures should be tested prior to mixing commercial quantities. For advice on product compatibility with QUADRANT®, please contact Adama Australia.

**APPLICATION**

**Boom Sprayer:** A minimum of 50 L of water per hectare should be used, however, for optimum results water rates of 70-100 L/ha are recommended. Increase the water volume if weed infestation is heavy or crop cover is dense. Complete coverage of weeds is essential.

**Aircraft (NSW, Vic, SA only):** Apply in a minimum of 30 L water per hectare. Effective weed control will only be achieved where good coverage of the leaf surface is achieved.

**RE-ENTRY**

Do not enter treated areas until the spray has dried, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

**PRECAUTION**

Human flaggers must be protected by engineering controls such as vehicles with enclosed cabs.

**PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS**

Avoid spray drift and vapour movement onto susceptible crops such as canola, cotton, tobacco, grapevines, lupins, fruit trees, ornamentals, tomatoes and other vegetables.

**PROTECTION OF LIVESTOCK**

**Grazing Precaution:** Sprayed weeds may become more palatable to stock and a higher intake of some weeds may result in stock poisoning and death from causes such as nitrate poisoning.

Care should be taken especially where Capeweed, Paterson's Curse and variegated thistles predominate in the pasture. Avoid grazing with young or breeding stock.

DO NOT graze horses or pigs on Paterson's Curse. If in doubt, contact your nearest Department of Agriculture.

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

Very toxic to aquatic life. DO NOT contaminate wetlands or watercourses with this product or used containers.

**STORAGE AND DISPOSAL**

**1-100L, 200L:** 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 a 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.

**110 L:** Store the original sealed container in a cool well-ventilated area. DO NOT store for prolonged periods in direct sunlight.
DO NOT tamper with the Micro Matic valve or the security seal.
DO NOT contaminate the container with water or any foreign matter. After each use of the product, please ensure that the Micro Matic coupler delivery system and hoses are disconnected, triple rinsed with clean water and drained accordingly. When the contents of the container have been used, please return container to the point of purchase. The container remains the property of Adama Australia

**1000L:** Store in the closed, original container in a cool, well-ventilated area.
DO NOT store for prolonged periods in direct sunlight. Storage must be secure so that contents cannot be tampered with. All locks and/or seals must be in order. If locks or seals are broken prior to initial use then the integrity of this product cannot be assured. If this occurs Adama Australia should be advised immediately. This minibulk container is reusable and remains the property of Adama Australia.
DO NOT rinse empty container. Empty contents fully into application equipment. Close all valves and return to the point of supply for refill or storage. No other liquid, solid or pesticide product should be put into it. When empty return to Adama Australia for cleaning, relabelling and refilling.

**SAFETY DIRECTIONS**

Harmful if inhaled or swallowed. Will irritate eyes. May irritate skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. Do not inhale vapour or spray mist. When opening the container, preparing the spray and using the prepared spray, except if applying by aerial spraying equipment, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, elbow-length chemical resistant gloves, face shield or goggles and a disposable mist face mask covering mouth and nose. In addition, when opening the container and preparing spray for aerial spraying equipment, wear cotton overalls, over normal clothing, buttoned to the neck and wrist, elbow-length chemical resistant gloves, face shield or goggles and a half facepiece respirator with organic vapour/gas cartridge or canister. Wash hands after use. After each day's use, wash gloves, respirator and if rubber wash with detergent and warm water, face shield or goggles and contaminated clothing.

**FIRST AID**

If poisoning occurs contact a doctor or Poisons Information Centre. Phone Australia 131126. If swallowed, do NOT induce vomiting. If in eyes, wash out immediately with water.

**SAFETY DATA SHEET**

Additional information is listed in the safety data sheet (SDS). A safety data sheet for QUADRANT® is available from adama.com or call Customer Service on 1800 423 262.

**CONDITIONS OF SALE:** The use of QUADRANT® Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia, regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Adama Australia accepts no responsibility for any consequence whatsoever resulting from the use of this product.



**NOT A DANGEROUS GOOD ACCORDING TO THE AUSTRALIAN DANGEROUS GOODS (ADG) CODE.**

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