



# Material Safety Data Sheet

## SECTION 1: IDENTIFICATION OF THE CHEMICAL PRODUCT

**Product Name:** QUATRON 200 EC SELECTIVE HERBICIDE

**Product Type:** Group A Herbicide/ Aryloxyphenoxypropionates derivative.

**Product Use:** For the control of certain grass weeds in broadleaf crops as per Directions for Use table.

## SECTION 2: HAZARD IDENTIFICATION

### Statement of Hazardous Nature

This product is classified as: Xn, Harmful. Hazardous according to the criteria of SWA. Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

**Risk Phrases:** R20/22, R65. Harmful by inhalation and if swallowed. Harmful – May cause lung damage if swallowed.

**Safety Phrases:** S23, S26, S28, S46, S62, S24/25, S36/37/39. Do not breathe vapours or spray mists. In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre. After contact with skin, wash immediately with plenty of soap and water. If swallowed, contact a doctor or Poisons Information Centre immediately and show this MSDS or label. If swallowed, do not induce vomiting: seek medical advice immediately and show this MSDS. Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection.

**SUSDP Classification:** S6. **ADG Classification:** Class 9: Miscellaneous Dangerous Goods.  
**UN Number:** UN 3082

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS	Proportion
Quizalofop-p-ethyl	100646-51-3	200g/L
Liquid Hydrocarbon	64742-94-5	592g/L
N-Methyl-2-pyrrolidone	872-50-4	150g/L
Other non-hazardous ingredients	-	Balance

## SECTION 4: FIRST AID MEASURES

**Inhalation:** No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

**Skin Contact:** Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

**Eye Contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

## SECTION 5: FIRE FIGHTING MEASURES

**Fire and Explosion Hazards:** This product is classified as a C1 combustible product. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Suitable extinguishing media are carbon dioxide, dry chemical, foam, water fog. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. Try to contain spills, minimise spillage entering drains or water courses.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.

**Flash Point:** >61°C

## SECTION 6: ACCIDENTAL RELEASE MEASURES

In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Otherwise, not normally necessary.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict

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between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or reuse. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

## SECTION 7: HANDLING AND STORAGE

Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging there may be further storage instructions on the label

## SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits have not been established by SWA for these ingredients ie. No TWA or STEL limits set. No biological limits applicable.

Ensure adequate ventilation and reduced dust in a shaded dry storage.

The ADI for Quizalofop-ethyl is set at 0.01mg/kg/day. The corresponding NOEL is set at 1.25mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Sept 2010.

Personal Protective Equipment:

Australian Standards regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

**Ventilation:** This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

**Eye Protection:** Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

**Skin Protection:** Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: rubber.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Physical Description & colour:** Dark amber liquid.

**Odour:** Faint paint like odour.

**Boiling Point:** No data.

**Specific Gravity:** 1.06

**Freezing/Melting Point:** No specific data. Liquid at normal temperature.

**Vapour Pressure:** No data.

**Vapour Density:** No data.

**Water Solubility:** Emulsifiable.

**pH:** No data.

**Volatility:** No data.

**Odour Threshold:** No data.

**Evaporation Rate:** No data.

**Coeff Oil/water distribution:** No data.

**Autoignition temp:** No data.

## SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** strong acids, strong bases, oxidising agents.

**Fire Decomposition:** Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Acute Toxicity:** Pure Quizalofop-p-ethyl is harmful by oral exposure. The reported oral LD50 values of the compound are 1210 to 1670 mg/kg in male rats, and 1182 to 1480 mg/kg in female rats. Mice are only slightly less susceptible to the compound. Quizalofop-p-ethyl has reported LD50 values of 1753 to 2350 mg/kg in male mice and 1805 to 2360 mg/kg in female mice. For a formulated product, the reported oral LD50 values are 6600 mg/kg in male rats and 5700 in female rats. Exposure of the skin of rabbits to the compound indicated that the compound is not harmful by this route. The acute percutaneous (absorbed through the skin) LD50 for quizalofop-p-ethyl in mice, rats, and rabbits is greater than 2000 mg/kg. For the formulated product, the reported dermal LD50 in rabbits is greater than 5000 mg/kg. Quizalofop-p-ethyl is slightly to practically nontoxic via inhalation, both in technical form and formulation. Reported 4-hour inhalation LC50s values are 5.8 mg/L for technical quizalofop-p-ethyl and 75 mg/L for formulated product in rats. Quizalofop-p-ethyl is nonirritating to the skin and only slightly irritating to the eyes in rabbits. It is nonsensitizing to the skin of guinea pigs. The formulated product, however, is severely irritating to rabbit eyes.

**Chronic toxicity:** In a 1-year feeding study on dogs, doses of up to 10 mg/kg/day (the highest dose tested in that study) caused no observed effects. In a 90-day feeding study in rats, doses of 6.4 mg/kg/day and higher produced liver lesions and increased liver weight. In a 2-year study of rats, doses of 5 mg/kg/day produced no observed effects.

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**Reproductive effects:** Data from reproductive studies indicated only decreased body weight gains, and did not report findings of impaired reproductive function in test animals. A 6-month study in dogs found atrophy of the semeniferous tubules at doses of 2.5 mg/kg/day, but was unclear whether this was extensive enough to result in impaired reproductive function. These data are insufficient to draw conclusions regarding the likely reproductive effects of quizalofop-p-ethyl in animals, but suggest that effects on human reproduction are unlikely under normal circumstances.

**Teratogenic effects:** In a two-generational study in rats, doses of 2.5 mg/kg/day and higher produced increased liver weights in offspring. No teratogenic effects were observed in another study in rats at doses of up to 300 mg/kg/day (the highest doses tested) over an unspecified period, although maternal decreases in body weight, food consumption, and corpora lutea were observed at doses of 100 mg/kg/day. These data suggest that teratogenic or developmental effects are unlikely in humans.

**Mutagenic effects:** The results of many assays for mutagenicity and genotoxicity of quizalofop-p-ethyl show no mutagenic or genotoxic activity. Quizalofop-p-ethyl was not found to be mutagenic in the Ames assay, either with or without metabolic activation, nor was mutagenic activity seen in Chinese hamster ovary cell culture tests. Assays for chromosome structural aberrations and alterations in DNA damage repair capacity were also negative.

**Carcinogenic effects:** In an 18-month carcinogenicity study on mice, increased liver weights, changes in blood chemistry, and some changes in liver tissue structure were detected, but no carcinogenic or tumour-causing activity was reported. This study suggests that this compound is not carcinogenic.

**Organ toxicity:** Available data show that the target organ in test animals has consistently been the liver in rats and dogs. It is possible that testes may be a target organ in some species; e.g. dogs.

**Fate in humans and animals:** Quizalofop-p appears to be rapidly broken down in mammals.

## SECTION 12: ECOLOGICAL INFORMATION

**Effects on Birds:** Quizalofop-p-ethyl is practically nontoxic to birds. The reported 8-day feeding (dietary) LC50 is greater than 5000 ppm in bobwhite quail and mallard ducks. The reported LD50 for quizalofop-p-ethyl is greater than 2000 mg/kg in mallard ducks.

**Effects on aquatic organisms:** Quizalofop-p-ethyl is highly to very highly toxic to fish. Reported 96-hour LC50 values are 10.7 mg/L in rainbow trout and 0.46 to 2.8 mg/L in bluegill sunfish.

**Effects on other organisms:** Quizalofop-p-ethyl is practically nontoxic to bees, with a 48-hour contact LD50 of greater than 100 mg/bee.

### **Environmental Fate:**

**Breakdown in soil and groundwater:** Quizalofop-p-ethyl is moderately persistent in soils, with a reported half-life of 60 days. It may be more rapidly broken down in soil with high microbial activity. It is moderately to strongly sorbed to soils, and studies indicate very low soil mobility. It should not leach significantly into water.

**Breakdown in water:** No data are currently available.

**Breakdown in vegetation:** No data are available regarding the breakdown of the compound; however, it is absorbed from the leaf surface and translocated throughout the plant. It accumulates in the active growing regions of stems and roots.

## SECTION 13: DISPOSAL CONSIDERATIONS

Instructions for the disposal of this product and its containers are listed on the product label.

For collection of unwanted rural chemicals, contact ChemClear @1800 008 182 [www.chemclear.com.au](http://www.chemclear.com.au) and for help with the disposal of empty drums, contact DrumMuster® [www.drummuster.com.au](http://www.drummuster.com.au) for local and State contacts.

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## SECTION 14: TRANSPORT INFORMATION

**UN Number:** UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S  
(CONTAINS QUIZALOFOP-P-ETHYL)

**Proper Shipping Name:** None allocated

**SUSDP Classification:** S6.

**ADG Class:** Class 9 Miscellaneous dangerous good.

**Hazchem Code:** 2X

**Packing Group:** III

## SECTION 15: REGULATORY INFORMATION

**AICS (Australia):** All of the components in this product are listed on the Australian Inventory of Chemical Substances.

**APVMA Registration Number:** 66546

## SECTION 16: OTHER INFORMATION

**This MSDS contains only safety-related information sourced from the public domain and analytical results on this product:**

### Acronyms:

**ADG Code** Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition

**AICS** Australian Inventory of Chemical Substances

**CAS number** Chemical Abstracts Service Registry Number

**Hazchem Number** Emergency action code of numbers and letters that provide information firefighters

**IARC** International Agency for Research on Cancer

**ASCC** Office of the Australian Safety and Compensation Council

**NTP** National Toxicology Program (USA)

**R-Phrase** Risk Phrase

**SUSDP** Standard for the Uniform Scheduling of Drugs & Poisons

**UN Number** United Nations Number

**Police and Fire Brigade: Dial 000 **Poisons Information Centre (13 1126)****

**Emergency contact: 04 0214 9346 (24 hours)**

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