

Quizalofop-P-Ethyl 100 EC

Issued: July, 2010

Section 1: SUBSTANCE IDENTIFICATION AND SUPPLIER

Trade Name:	UNITED FARMERS QUIZALOFOP-P-ETHYL 100 EC HERBICIDE
Substance:	Quizalofop is an aryloxyphenoxy propionic acid derivative.
Product Use:	Agricultural herbicide for use as described on the product label.
Company Identification:	Ravensdown Fertiliser Co-operative Limited - Incorporated in New Zealand
Address:	2 Birksgate Rd Rous Head North Fremantle, WA 6160
Customer Centre:	1800 624 122
Poisons Information Centre:	13 1126 in Australia, 0800 764 766 in New Zealand
Emergency Telephone Number:	For specialist advice call 1800 705 766 (24hr) (Emergencies Only)
Transport Emergency:	IN AN EMERGENCY, DIAL 000 - FIRE or POLICE

Section 2: HAZARD IDENTIFICATION

Statement of Hazardous Nature:	This product is classified as: Hazardous according to the criteria of NOHSC Australia. Dangerous according to the Australian Dangerous Goods (ADG) Code.	
Risk Phrases:	R22	Harmful if swallowed.
	R65	Harmful: May cause lung damage if swallowed.
	R66	Repeated exposure may cause skin dryness or cracking.
	R52/53	Harmful to aquatic organisms, may cause long-term adverse effects to the aquatic environment.
Safety Phrases:	S20	When using, do not eat or drink.
	S46	If swallowed, contact a doctor or Poisons Information Centre immediately and show this MSDS or label.
	S61	Avoid release to the environment. Refer to special instructions/Safety Data Sheets.
	S24/25	Avoid contact with skin and eyes.
	S36/37	Wear suitable protective clothing and gloves

Section 3: COMPOSITION INFORMATION

INGREDIENTS	CAS No	Conc,%	TWA (mg/m ³)	STEL (mg/m ³)
Quizalofop-p-ethyl	100646-51-3	1 00g/L	not set	not set
Liquid hydrocarbon		800 g/L	not set	not set
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4: FIRST AID MEASURES

Emergency Overview

Physical Description & Colour:	Clear, amber liquid.
Odour:	Liquid hydrocarbon/solvent odour.

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Major Health Hazards:	Pure Quizalofop-p-ethyl is harmful by oral exposure. The reported oral LD ₅₀ 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 LD ₅₀ values of 1753 to 2350 mg/kg in male mice and 1805 to 2360 mg/kg in female mice. Harmful if swallowed, if aspirated, may cause lung damage.
General Information:	You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.
Inhalation:	First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.
Skin Contact:	Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.
Eye Contact:	No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. 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 no risk of an explosion from this product under normal circumstances if it is 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:	Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog. Water fog or fine spray is the preferred medium for large fires. Ensure that no spillage enters drains or water courses.
Fire Fighting:	If a significant quantity of this product is involved in a fire, call the fire brigade.
Flash point:	>63°C
Upper Flammability Limit:	No data.
Lower Flammability Limit:	No data.
Autoignition temperature:	No data.
Flammability Class:	C1

Section 6: ACCIDENTAL RELEASE MEASURES

Spills and Disposal:	Wear appropriate protective clothing. Exclude non-essential people from the area. Contain spill and absorb with inert material such as soil, sand or absorbent granules and place in a sealable waste container. Dispose of waste safely in an approved landfill.
Protective Clothing:	For appropriate personal protective equipment see section 8.
Environmental Precaution:	Prevent from entering drains, waterways or sewers. If spill does enter waterways contact local authority.

Section 7: HANDLING AND STORAGE

Handling:	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.
Storage:	This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Check packaging - there may be further storage instructions on the label.

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

The following Australian Standards will provide general advice 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**.

Exposure Limits:	Exposure limits have not been established by NOHSC for any of the significant ingredients in this product. 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.
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Ventilation:	No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.
Eye Protection:	Eye protection such as protective glasses or goggles is recommended when this product is being used.
Skin Protection:	You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.
Protective Material Types:	We suggest that protective clothing be made from the following materials: rubber, PVC.
Respirator:	Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Safety deluge showers should, if practical, be provided near to where this product is being used.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical Description & colour:	Clear, amber liquid.
Odour:	Liquid hydrocarbon/solvent odour.
Boiling Point:	175-210°C at 100kPa (solvent only)
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No specific data. Expected to be low at 100°C.
Vapour Pressure:	No data.
Vapour Density:	No data.
Specific Gravity:	1.02-1.03 at 20°C
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:	Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.
Incompatibilities:	Strong acids, strong bases, strong 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. 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

Potential Health

Effects

Inhalation

Short Term Exposure: Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Eye Contact:

Short Term Exposure: This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. Because of the low viscosity of this product, it may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

Carcinogen Status:

NOHSC: No significant ingredient is classified as carcinogenic by NOHSC.
NTP: No significant ingredient is classified as carcinogenic by NTP.
IARC: No significant ingredient is classified as carcinogenic by IARC.

Acute toxicity:	Pure Quizalofop-p-ethyl is harmful by oral exposure. The reported oral LD ₅₀ 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 LD ₅₀ 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 LD ₅₀ 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) LD ₅₀ for quizalofop-p-ethyl in mice, rats, and rabbits is greater than 2000 mg/kg. For the formulated product, the reported dermal LD ₅₀ 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 non-irritating to the skin and only slightly irritating to the eyes in rabbits. It is non-sensitizing 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.
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 seminiferous 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.

Classification of Hazardous Ingredients:	Ingredient Quizalofop-p-ethyl	Risk Phrases Conc>=25%: Xn; R22
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Section 12: ECOLOGICAL INFORMATION

Harmful to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Effects on birds:	Quizalofop-p-ethyl is practically nontoxic to birds. The reported 8-day feeding (dietary) LC ₅₀ is greater than 5000 ppm in bobwhite quail and mallard ducks. The reported LD ₅₀ 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 LC ₅₀ 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 LD ₅₀ 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 adsorbed 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 INFORMATION

Follow label advice for the disposal of empty containers, packaging and for the return of refillable containers.

Product Disposal: For the disposal of unwanted / unusable chemicals, seek advice from suppliers, local government, your local Waste Management Authority and consult ChemClear, 1800 008 182 <http://www.chemclear.com.au/>

Container Disposal: Where possible, used containers should be recycled after triple rinsing. Check with local suppliers and or DrumMUSTER <http://www.drummuster.com.au/>. Otherwise, bury at an authorised landfill. Before disposing of unwanted containers or used packaging on a property, ensure that all appropriate regulations, both Local and State Government, are observed. Significant penalties may apply.

Section 14: TRANSPORT INFORMATION

ADG Code: 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
UN Number: 3082
SUSDP Classification: S6
ADG Classification: Class 9 (ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.)
Hazchem Code: 2X
Special Provisions: SP179, SP274
Dangerous Goods Class: Class 9, Miscellaneous Dangerous Goods.
Packaging Group: III
Packaging Method: 3.8.9

Section 15: REGULATORY INFORMATION

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredients: Quizalofop-p-ethyl, Liquid hydrocarbon, are mentioned in the SUSDP.

Section 16: OTHER INFORMATION

This MSDS contains only safety-related information. For other data see product literature.

This MSDS supersedes all others and was reviewed: February, 2010

Please read all labels carefully before using product.

This MSDS is prepared in accord with the ASCC document "National Code of Practice for the Preparation of Material Safety Data Sheets"2nd Edition [NOHSC:2011(2003)]