

Infosafe No™ 3NU7A	Issue Date : March 2013	ISSUED by NUFARM
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Product Name **NUQUAT 250 Non-Residual Knockdown Herbicide**

Classified as hazardous

1. Identification

GHS Product Identifier	NUQUAT 250 Non-Residual Knockdown Herbicide
Product Code	0646
Product Type	Group L Herbicide
Company Name	NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
Address	103-105 Pipe Road Laverton North Victoria 3026 Australia
Telephone/Fax Number	Tel: +61 3 9282-1000 Fax: +61 3 9282-1001
Emergency phone number	1800 033 498 (24hr Australia)
Recommended use of the chemical and restrictions on use	For the control of a wide range of grasses and broadleaf weeds as per the Directions for Use table on the label. FOR USE ONLY AS AN AGRICULTURAL AND HORTICULTURAL HERBICIDE. THIS PRODUCT IS TOO HAZARDOUS TO BE USED IN THE HOME GARDEN.
Other Information	This MSDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. Hazard Identification

GHS classification of the substance/mixture	Acute Toxicity - Oral: Category 3 Acute Toxicity - Dermal: Category 3 Skin Corrosion/Irritation: Category 2 Acute Toxicity - Inhalation: Category 2 STOT Single Exposure Category 3 (respiratory tract irritation) STOT Repeated Exposure Category 1 Eye Damage/Irritation: Category 1
Signal Word (s)	DANGER
Hazard Statement (s)	Toxic if swallowed. Toxic in contact with skin. Causes skin irritation. Fatal if inhaled. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure Causes serious eye damage.
General Precautionary Statement (s)	If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use.
Pictogram (s)	Skull and crossbones, Exclamation mark, Health hazard, Corrosion



Precautionary statement – Prevention

Do not breathe dust or spray.
Wash hands and exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves, clothing, eye and face protection.

Precautionary statement – Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Immediately call a POISON CENTER or doctor/physician.
Specific treatment is urgent (see First Aid instructions on this SDS).
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Specific treatment is urgent (see First Aid instructions on this SDS).
Rinse mouth.
IF ON SKIN: Wash with plenty of soap and water.

Infosafe No™ 3NU7A	Issue Date : March 2013	ISSUED by NUFARM
--------------------	-------------------------	------------------

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Get immediate medical advice/attention.
 Specific measures (see First Aid instructions on this SDS).
 Remove, immediately, all contaminated clothing.
 Wash contaminated clothing before reuse.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Get immediate medical advice/attention.
 Poisons Schedule S7 DANGEROUS POISON

Other Information

3. Composition/information on ingredients

Chemical Characterization	Liquid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Paraquat present as Paraquat dichloride	1910-42-5	250 g/L
	Emulsifiers		10-30 %
	Phosphoric acid	7664-38-2	0-5 %
	Water		Balance

4. First-aid measures

First Aid Measures OBTAIN IMMEDIATE MEDICAL ATTENTION.
 SPEED IS ESSENTIAL.

Inhalation Remove patient from exposure, keep warm and at rest.
 Obtain medical attention urgently.

Ingestion RAPID TREATMENT IS ESSENTIAL IN CASE OF PARAQUAT POISONING.

Immediately transfer patient to nearest hospital or medical centre, warning by telephone of the estimated time of arrival so that the start of treatment is not delayed. If swallowed, do NOT induce vomiting; make every effort to prevent vomit from entering the lungs by careful placement of the patient. Rinse mouth. A slurry of activated charcoal or clay (fuller's earth, bentonite) may be administered by a trained person. Ingestion of activated charcoal tablets, food, or even plain dirt, may be of benefit if absorbent slurry cannot be given.

Skin Wash affected areas thoroughly with soap and water.
 Remove contaminated clothing and laundry before re-use.
 Seek medical advice, but only after the exposed skin has been thoroughly washed.

Eye contact If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
 Seek medical advice immediately.

First Aid Facilities If poisoning occurs, contact a doctor or the Poisons Information Centre (Australia) on 13 11 26.

Advice to Doctor RAPID TREATMENT FOR PARAQUAT POISONING IS ESSENTIAL. Evacuation of the stomach, stomach washout and administration of adsorbents should be carried out as quickly as possible.
 A booklet entitled 'Paraquat Poisoning, a practical guide to diagnosis, first aid and hospital treatment' (prepared by Syngenta) is available at major hospitals or Poisons Information Centres, or contact the emergency number at the end of this SDS.
 TREATMENT: Wash out stomach and test urine and gastric aspirate (if clear) for presence of paraquat. Give activated charcoal (100 g for adults or 2 g / kg body weight for children) orally or via gastric tube, together with a suitable purgative (200 ml of an aqueous solution of mannitol). Alternatively, 1 litre of 15% aqueous suspension of Fuller's Earth or a 7% suspension of bentonite in 10% glycerol in water should be used if activated charcoal is unavailable. Repeat administration of adsorbent plus purgative until adsorbent is seen in the stools. This should normally take between 4 and 6 hours after the start of treatment. NOTE: The use of gastric lavage without administration of an adsorbent has not shown any clinical benefit. Do not use supplemental oxygen. Treat skin irritation / damage symptomatically with daily review if contaminated with concentrate as blistering and chemical burns may develop over 1 to 3 days. If systemic toxicity is suspected, test for paraquat in urine or blood and treat confirmed paraquat systemic toxicity as above.

Infosafe No™ 3NU7A Issue Date : March 2013 ISSUED by NUFARM

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5. Fire-fighting measures

Suitable extinguishing media If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.

Hazards from Combustion Non-combustible.

Products If involved in a fire, the dehydrated components may emit oxides of carbon, oxides of nitrogen and hydrogen chloride.

Special Protective Equipment for fire fighters Breathable air apparatus must be worn when fighting a fire in which this product is involved.

Hazchem Code 2X

6. Accidental release measures

Spills & Disposal Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).
Collect spilled material and waste in sealable open-top type containers for disposal.
On-site disposal of concentrate is not acceptable.
If possible, ring 1800 033 498 for specialist advice.

Personal Protection Wear specified PPE to decontaminate personnel and equipment, or to handle broken packages or containers.
Wear eye protection, chemically resistant gloves, rubber boots, chemically resistant overalls and full face shield with chin guard. Decontaminate emergency personnel with soap and water before leaving the emergency area.

Clean-up Methods - Large Spillages If large liquid spills occur, attempt to recover as much spilt material from sumps and banded areas, as possible, before absorbing remaining material into vermiculite or other absorbent.

Environmental Precautions Use earthen bunds or absorbent bunding to prevent spreading of spillage.

7. Handling and storage

Precautions for Safe Handling For use by licensed pest control operators or primary producers only.
Do not work in spray mist.
Avoid contact of the concentrate with skin cuts or abrasions.
Do not continue to use if skin irritation or nose bleed occurs. This may be caused by exposure to stray mist as the result of incorrect use of equipment or adverse climatic conditions. Stop and review handling and spraying techniques before further spraying. If symptoms persist seek medical advice.

Conditions for safe storage, including any incompatibilities Store in the closed, original container in a cool, well ventilated area.
Do not store for prolonged periods in direct sunlight.
Store in a locked enclosure.
For use by licensed pest-control operators or primary producers only.

Other Information Always read the label and any attached leaflet before use.

8. Exposure controls/personal protection

Occupational exposure limit values No exposure standard for this product has been set, however, an exposure standard has been set for paraquat (respirable sizes) at 0.1 mg/m3.

Appropriate engineering controls No special requirements.
Ensure workplace is well ventilated.
Some people who are extremely sensitive to the product may develop nose bleeds when handling the concentrate. If possible, these people should not handle the material; if they must, provide effective local ventilation.

Respiratory Protection Do not inhale spray mist.
If exposure to vapour, spray or dusts from dried product is expected, wear a high efficiency particulate respirator covering nose and mouth.

Personal Protective Equipment When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length impervious gloves and full face shield with chin guard.
When there is a risk of exposure to spray mist wear waterproof footwear and waterproof protective clothing, impervious gauntlet length gloves (rubber or PVC), goggles and a face mask and respirator covering nose and mouth and capable of filtering spray droplets. A high efficiency type particulate

Infosafe No™ 3NU7A	Issue Date : March 2013	ISSUED by NUFARM
--------------------	-------------------------	------------------

Product Name **NUQUAT 250 Non-Residual Knockdown Herbicide**

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Hygiene Measures	respirator is recommended, but in any event use a respirator which complies with the requirements of AS1716 (Standards Association of Australia). Further advice on safety equipment should be obtained from a safety equipment manufacturer.
	Avoid contacting vegetation wet with spray, but if necessary to do so, wear waterproof footwear and waterproof protective clothing and gloves.
	After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.
	After each day's use, wash contaminated clothing and safety equipment.
Requirements Concerning Special Training	Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

9. Physical and chemical properties

Form	Liquid
Appearance	Clear dark blue liquid
Odour	Obnoxious odour
Boiling Point	~100°C
Solubility in Water	Soluble in water.
Specific Gravity	1.11
pH	5.0 - 6.5
Vapour Pressure	<1 x 10 ⁻² mPa (25°C, paraquat dichloride)
Partition Coefficient: n-octanol/water	Kow Log P is -4.5 (20°C)
Flammability	Non combustible material.

10. Stability and reactivity

Chemical Stability	Paraquat is inactivated by adsorption onto clay.
Incompatible Materials	Paraquat is highly corrosive to most metals, e.g. aluminium, zinc and iron.
Possibility of hazardous reactions	Keep away from strong oxidising agents.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat) 129 - 157 mg/kg for paraquat dichloride LD50 (guinea pig) 30 - 58 mg/kg
Acute Toxicity - Dermal	LD50 (rat) 911 mg/kg for paraquat dichloride LD50 (rabbit) 240 mg/kg for paraquat ion May cause temporary damage to nails and a delay in the healing of cuts and wounds.
Acute Toxicity - Inhalation	LC50 (rat) (4hr) 0.5 - 1.5 µg/l for paraquat dichloride
Ingestion	TREATMENT OF PARAQUAT POISONING MUST COMMENCE AS RAPIDLY AS POSSIBLE. Rapid treatment is essential. The immediate effects of poisoning depend on the dose of paraquat absorbed into the blood. Mild poisoning occurs at <20 mg paraquat ion/kg body weight and the effects are vomiting and diarrhoea. Moderate to severe poisoning occurs at 20-30 mg paraquat ion/kg body weight and the effects are vomiting, abdominal discomfort, soreness and inflammation of the mouth, throat and oesophagus, difficulty in swallowing and, later, diarrhoea. Kidney and liver damage may appear 1-3 days after exposure. Can cause death by a delayed proliferating fibrosis of the lung within 1-3 weeks. Lethal poisoning occurs at >30 mg paraquat ion/kg body weight and the effects are nausea and vomiting, and can cause death by multi-organ failure and circulatory collapse within 48 hours.
Inhalation	Highly toxic if inhaled. Nose bleeding and soreness of the throat may result from spray mist or dust trapped on the nasal mucosa. Irritating to the respiratory system. Pulmonary oedema may occur up to 48 hours after exposure and could prove fatal.

Infosafe No™ 3NU7A	Issue Date : March 2013	ISSUED by NUFARM
--------------------	-------------------------	------------------

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	<p>If the concentrate is allowed to dry out, solid paraquat dust can be created. Paraquat dust is highly toxic (TLV 0.1mg/m³) and should not be handled without full respiratory protection.</p> <p>This product contains a stenching agent to give an offensive smell. This has been done to reduce the likelihood of accidental ingestion. This stenching agent may cause headaches and nausea in some people when inhaled. The presence of this offensive smell in the air does not necessarily indicate the presence of paraquat.</p>
Skin	<p>Contact of the concentrate with abraded skin or skin with cuts must be avoided.</p> <p>Contact with concentrate on skin will result in moderate irritation. Can cause inflammation and in severe cases blistering of the skin. Contamination of the nails may cause white spots or in severe cases cracking and loss of the nail. Normal growth follows without delay. Intact skin is a very effective barrier to paraquat. Damaged skin removes the barrier and paraquat may be absorbed with effects as outlined above under ingestion.</p>
Eye	<p>Eye irritation may be delayed. May lead to ulceration of corneal and conjunctival epithelium giving rise to secondary infection. Although healing may be slow, the injury is superficial and with proper medical care will be complete, even in severe cases.</p>
Skin Sensitisation	<p>Product is not a skin sensitiser.</p>
Carcinogenicity	<p>Data indicates no carcinogenic effects.</p>
Reproductive Toxicity	<p>Data indicates no reproductive effects.</p>
Chronic Effects	<p>Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.</p>
Serious eye damage/irritation	<p>The product is an eye irritant.</p>
Skin corrosion/irritation	<p>The product is a skin irritant.</p>
Other Information	<p>The Australian Acceptable Daily Intake (ADI) for paraquat (as cation) for a human is 0.004 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.45 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, Office of Chemical Safety, 'ADI List', June 2012).</p>

12. Ecological information

Persistence and degradability	<p>Paraquat is rapidly absorbed and inactivated by contact with soil. There is evidence of photodegradation in air.</p>
Known Harmful Effects on the Environment	<p>The product is a marine pollutant for sea transport.</p>
Other Precautions	<p>Keep domestic pets and poultry away from treated areas.</p> <p>This formulation should not be applied on or near water which is used for livestock watering.</p> <p>Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.</p> <p>Spray drift should be avoided, read the label for more information.</p> <p>This formulation should not be applied on or near water which is used for irrigation purposes.</p>
Environmental Protection	
Acute Toxicity - Fish	<p>LC50 (96hr) for rainbow trout is 15 mg/l for paraquat dichloride</p>
Acute Toxicity - Daphnia	<p>EC50 (48hr) for daphnia is 1.2 mg/l for paraquat dichloride.</p>
Acute Toxicity - Algae	<p>ECr50 (72hr) for algae is 0.32 mg/l.</p>
Acute Toxicity - Other Organisms	<p>The following data is for the active ingredient, paraquat dichloride.</p> <p>LD50 for mallard duck is 199 mg/kg</p> <p>LD50 for bobwhite quail is 175 mg/kg</p> <p>Bees: Not toxic to bees. LD50 36 µg/bee.</p>

13. Disposal considerations

Infosafe No™ 3NU7A	Issue Date : March 2013	ISSUED by NUFARM
--------------------	-------------------------	------------------

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Product Disposal On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

Container Disposal Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. If no landfill is available, bury the containers below 500mm 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.

14. Transport information

U.N. Number	3016
UN proper shipping name	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC - (Contains Paraquat)
Transport hazard class(es)	6.1
Hazchem Code	2X
Packaging Method	3.8.6.1
Packing Group	III
Storage and Transport	Considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.
EPG Number	6B1
IERG Number	34
UN Number (Sea Transport)	3016
IMO Class/Packing Group	Class 6.1; Packing Group III
IMO Marine Pollutant	Marine Pollutant
IMO Proper Shipping Name	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, N.O.S. (contains paraquat)

15. Regulatory information

Poisons Schedule	S7
Hazard Category	Very Toxic, Irritant
Other Information	This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). APVMA product number: 53221.

16. Other Information

Date of preparation or last revision of SDS	Revised 27/03/2013 This SDS replaces document dated January 2013.
Contact Person/Point	Normal Hours: Mrs Kathleen Marsh Phone: +61 3 9282 1000 After Hours: Shift Supervisor Phone: 1800 033 498
Revisions Highlighted	The SDS was reviewed. Various changes were made to the information. Product is a Marine Pollutant if transported by sea. Section 12 and 14 have been updated.



Safety Data Sheet

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CS: 1.6.22

Page: 7 of 7

Infosafe No™ 3NU7A

Issue Date : March 2013

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