



Material Safety Data Sheet

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Infosafe No. NU00M Issue Date : July 2004 ISSUED by NUFARM

Product Name : **DIURON Flowable Liquid Herbicide**

Classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name DIURON Flowable Liquid Herbicide
Product Code 0310
Product Use For the control of weeds in certain crops, as per the Directions for Use table on the label.
Company Name NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
Address 103-105 Pipe Road Laverton North
Victoria 3026 Australia
Emergency Tel. 24hr 1800 033 498
Telephone/Telex Number Tel: (03) 9282-1000 Fax: (03) 9282-1001
Other Names Name Flowable Diuron Liquid Herbicide Product Code 0310
Product Type Group C Herbicide
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. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid
Ingredients

| <u>Name</u> | <u>CAS</u> | <u>Proportion</u> |
|-----------------|------------|-------------------|
| Diuron | 330-54-1 | 500 g/l |
| Water | | 30-60 % |
| Ethylene glycol | 107-21-1 | 52 g/L |
| Dispersants | | 10-30 % |

3. HAZARDS IDENTIFICATION

Harmful: danger of serious damage to health by prolonged exposure if swallowed.
Other Information Poisons Schedule 5

4. FIRST AID MEASURES

Inhalation Over-exposure by inhalation is improbable. Check for other causes of observed symptoms and seek medical advice.
Ingestion If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.
Skin Wash affected areas thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
Eye If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
Seek medical advice.
Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.
Specific Hazards Considered low risk due to water content, however upon evaporation of water the product is combustible.
Hazardous Combustion Products If involved in a fire, the dehydrated components may emit oxides of carbon and nitrogen, cyanides, phosgene and hydrogen chloride.



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Emergency Action in case of Fire If exposed to fire, keep container cool by spraying with water.

Protective Equipment Breathable air apparatus should be worn when fighting a fire in which diuron is involved.

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.

Personal Protection For appropriate personal protective equipment (PPE), refer Section 8.
If product has dried out and the possibility of dust generation exists, wear a suitable respirator.

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

7. HANDLING AND STORAGE

Storage Store in the closed, original container in a cool, well ventilated area.
Do not store for prolonged periods in direct sunlight.
Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

| Exposure Limits | Name | STEL | | TWA | | Footnote |
|--------------------------------------|---|-------|-----|-------|-----|----------|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| | Diuron | | | 10 | | |
| | Ethylene glycol | 120 | | 60 | | |
| 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 PVC gloves and goggles. | | | | | |
| Eng. Controls | Handle in well ventilated areas, generally natural ventilation is adequate. | | | | | |
| Hygiene Measures | 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. | | | | | |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|--|
| Appearance | Pale green liquid |
| Solubility in Water | Disperses in water. |
| Boiling Point | ~100°C (for water) |
| Specific Gravity (H2O=1) | 1.160 |
| Vapour Pressure | 1.1 x 10 ⁻³ mPa @ 25°C for diuron |
| Volatile Component | ~40% (water) |
| Partition co-efficient, n-octanol/water | Kow Log P is 2.85 for diuron |
| Flammability | Non combustible material. |
| Other Information | |

10. STABILITY AND REACTIVITY

| | |
|---------------------------------|---|
| Stability | Stable under normal conditions. |
| Hazardous Polymerization | Hazardous polymerisation is not possible. |
| Hazardous Reaction | Keep away from strong oxidising agents. |



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11. TOXICOLOGICAL INFORMATION

| | |
|------------------------------------|---|
| Toxicology Information | No harmful effects are expected if the precautions on the label and this MSDS are followed. |
| Inhalation | May cause irritation to the respiratory tract. |
| Ingestion | Low toxicity. However, swallowing large amounts may cause nausea and vomiting. |
| Skin | The concentrated product may cause slight irritation on contact. |
| Eye | May irritate the eyes. |
| Chronic Effects | Evidence from animal studies indicate that repeated or prolonged exposure to diuron can result in blood disorders. |
| Reproductive Toxicity | No such effects have been observed in the absence of maternal toxicity. |
| Mutagenicity | The weight of evidence indicates that diuron does not present a mutagenic risk. |
| Carcinogenicity | Diuron has been assessed in animals and some data exists that diuron is a substance which causes some concern for humans owing to possible carcinogenic effects from long term exposure, but in respect of which the available information is not adequate for making a satisfactory assessment. |
| Acute Toxicity - Oral | LD50 (rat) >3000 mg/kg for diuron |
| Acute Toxicity - Dermal | LD50 (rabbit) >2000 mg/kg for diuron |
| Acute Toxicity - Inhalation | LC50 (rat) (4hr) >5 mg/l for diuron |
| Eye Irritation | Mild eye irritant. |
| Skin Irritation | Mild skin irritant. |
| Skin Sensitisation | Product is not a skin sensitiser. |
| Other Information | The Australian Acceptable Daily Intake (ADI) for diuron for a human is 0.006 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.625 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, 'ADI List', TGA, August 2003). |

12. ECOLOGICAL INFORMATION

| | |
|---|---|
| Persistence / Degradability | Average field half life of diuron is 90 - 180 days. |
| Acute Toxicity - Fish | The following is data for the active ingredient, diuron. LC50 (96 hr) for rainbow trout is 5.6 mg/l. LC50 (96 hr) for bluegill sunfish is 5.9 mg/l. |
| Acute Toxicity - Daphnia | LC50 (48 hr) for daphnia is 12 mg/l for diuron. |
| Acute Toxicity - Other Organisms | Not toxic to bees. Not toxic to birds. |

13. DISPOSAL CONSIDERATIONS

| | |
|-------------------------|--|
| 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 (ChemCollect). |
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Container Disposal 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.
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 None Allocated
Proper Shipping Name None Allocated
DG Class None Allocated
Hazchem Code None Allocated
Packing Group None Allocated
Storage and Transport Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. REGULATORY INFORMATION

Risk Phrase R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
Safety Phrase S13 Keep away from food, drink and animal feeding stuffs.
S2 Keep out of reach of children.
S37 Wear suitable gloves.
Poisons Schedule S5
Hazard Category Harmful
Packaging & Labelling CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING
AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Contact Person/Point Normal Hours: Mr Volker Maier Phone: (03) 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498
Revisions Highlighted The MSDS was reviewed. Minor changes were made to the information. The MSDS is now issued in a 16 header format.
...End Of MSDS...