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| Infosafe No™ 3NU88 | Issue Date : May 2010 | ISSUED by NUFARM |
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Product Name **SPIN FLO Systemic Fungicide**

Classified as hazardous

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name SPIN FLO Systemic Fungicide

Product Code 5810

Product Type Group 1 Fungicide
Formerly Group A Fungicide

Company Name NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)

Address 103-105 Pipe Road Laverton North
Victoria 3026 Australia

Emergency Tel. 1800 033 498 (24hr Australia)

Telephone/Fax Number Tel: +61 3 9282-1000
Fax: +61 3 9282-1001

Recommended Use A broad spectrum, systemic fungicide for the control of fungal diseases in various crops as per the Directions for Use table on the label.

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. HAZARDS IDENTIFICATION

Hazard Classification Classified as hazardous
HAZARDOUS SUBSTANCE.
NON-DANGEROUS GOODS.
Hazard classification according to the criteria of NOHSC.
Dangerous goods classification according to the Australia Dangerous Goods Code.

Risk Phrase(s) Classified as hazardous
R46(2) May cause heritable genetic damage.
R60(2) May impair fertility.
R61(2) May cause harm to the unborn child

Safety Phrase(s) S1/2 Keep locked up and out of reach of children.
S13 Keep away from food, drink and animal feeding stuffs.
S45 In case of accident or if you feel unwell seek medical advice immediately
S53 Avoid exposure - obtain special instructions before use.

Other Information Poisons Schedule S7 DANGEROUS POISON

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid

| Ingredients | <u>Name</u> | <u>CAS</u> | <u>Proportion</u> |
|-------------|---|------------|-------------------|
| | Carbendazim | 10605-21-7 | 500 g/L |
| | Water | | 30-60 % |
| | Other ingredients (considered non-hazardous) | | 10-30 % |

4. FIRST AID MEASURES

Inhalation Over-exposure by inhalation is improbable. Check for other causes of observed symptoms and seek medical advice.

Ingestion Rinse mouth and then drink plenty of water.
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.
If irritation persists, seek medical advice.

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

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

Advice to Doctor Treat symptomatically.

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

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

Specific Hazards Considered low risk due to water content, however upon evaporation of water the product is combustible.

Other Information STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

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. If possible, ring 1800 033 498 for specialist advice.

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.

7. HANDLING AND STORAGE

Precautions for Safe Handling Do NOT contaminate dams, rivers or streams, or any other water bodies with chemical or used containers.

Conditions for Safe Storage 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. Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards No exposure standards have been set for this product or the active ingredients.

Engineering Controls Handle in well ventilated areas, generally natural ventilation is adequate.

Personal Protective Equipment When opening the container, preparing product for use and using the prepared product, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, elbow-length PVC gloves, goggles and a half face piece respirator. Re-entry period: Do not enter treated area until spray has dried. Note: Use of a respirator is recommended by the APVMA to protect against chronic (long term exposure) effects.

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.

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 White to grey liquid suspension

Odour Faint odour

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| Solubility in Water | Disperses in water. |
| Specific Gravity | 1.15 |
| pH Value | 6.0 - 8.5 |
| Vapour Pressure | 0.15 mPa @ 25°C for Carbendazim |
| Volatile Component | ~46% |
| Octanol/Water Partition Coefficient | Kow Log P is 1.51 (pH7, Carbendazim) |
| Flammability | Non combustibile material. |
| Other Information | pKa is 4.2 (weak base) |

10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions.

11. TOXICOLOGICAL INFORMATION

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| Toxicology Information | No harmful effects are expected if the precautions on the label and this MSDS are followed. |
| Inhalation | Not a likely route of exposure. |
| Ingestion | Inhalation of sprays or mists may result in effects described under ingestion. Possible symptoms of exposure of the concentrate include: nausea, vomiting, diarrhoea and headache. |
| Skin | May irritate the skin. |
| Eye | May irritate the eyes. |
| Chronic Effects | Evidence from animal studies indicate that repeated or prolonged exposure to carbendazim can result in damage to the liver, kidneys and thymus. |
| Reproductive Toxicity | Overexposure or misuse of carbendazim may interfere with fertility and may cause adverse effects on embryo, including malformations, as the result of affecting chromosomes during cell division. The APVMA has issued the following warning: 'Contains carbendazim which causes birth defects and irreversible male infertility in laboratory animals. Avoid contact with carbendazim'. |
| Mutagenicity | The weight of evidence indicates that carbendazim does present a mutagenic risk. |
| Carcinogenicity | The weight of the evidence is that carbendazim is not carcinogenic. |
| Acute Toxicity - Oral | LD50 (rat) >5000 mg/kg for a similar formulation |
| Acute Toxicity - Dermal | LD50 (rat) >2000 mg/kg for a similar formulation |
| Acute Toxicity - Inhalation | LC50 (rat) (4hr) >5.2 mg/l for a similar formulation |
| Eye Irritation | Not an eye irritant. |
| Skin Irritation | Not a skin irritant. |
| Skin Sensitisation | Product is not a skin sensitiser. |
| Other Information | The Australian Acceptable Daily Intake (ADI) for carbendazim for a human is 0.03 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 2.5 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', December 2008). |

12. ECOLOGICAL INFORMATION

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|---|---|
| Persistence / Degradability | Average soil half life of carbendazim is 6 - 12 months. |
| Known Harmful Effects on the Environment | The product is a marine pollutant for sea transport. |

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Environ. Protection Spray drift can cause damage, read the label for more information.

Acute Toxicity - Fish Toxic to fish. LC50 (96hr) for rainbow trout is 0.87 mg/l.

Acute Toxicity - Daphnia EC50 (48hr) for daphnia is 0.22 mg/l for carbendazim.

Acute Toxicity - Other Organisms Birds: Not toxic to birds. LD50 for quail is 5862 - 15595 mg/kg
Bees: Not toxic to bees. LD50 >50 µg/bee.

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 (ChemClear®).

Unused or spent dip should be disposed of carefully to avoid contamination of streams, rivers or waterways. Dispose of dip by pouring evenly into a limed disposal pit, specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Alternatively, spray onto grassed areas where runoff to waterways, leaching to ground water or grazing by animals will not occur.

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. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, puncture or shred and bury containers in local authority landfill. 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

Transport Information Not classified as Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Storage and Transport Considered non dangerous for road and rail transport (in packaging, including IBCs not greater than 3000 Lt each) by the Australian Code for the Transport of Dangerous Goods by Road and Rail. Ref: ADG7; SP No. AU01.

For bulk shipments as Class 9, use UN 3082, HazChem code 2Z.

UN Number (Sea Transport)

3082

IMO Class/Packing Group

Class 9; Packing Group III

IMO Marine Pollutant

Marine Pollutant

IMO Proper Shipping Name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(contains Carbendazim)

15. REGULATORY INFORMATION

Poisons Schedule S7

Packaging & Labelling

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

Hazard Category

Toxic

AICS (Australia)

All of the components in this product are listed on the Australian Inventory



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of Chemical Substances.

16. OTHER INFORMATION

Date of preparation or last revision of MSDS Revised 11/05/2010

Contact

Normal Hours: Mr Volker Maier Phone: +61 3 9282 1000

Person/Point

After Hours: Shift Supervisor Phone: 1800 033 498

Revisions

The MSDS was reviewed. Changes made to sections:

Highlighted

- 1 - product type;
 - 2 - product is now a Poisons Schedule S7 - DANGEROUS POISON;
 - 5 - other information;
 - 7 - conditions for safe storage;
 - 8 - training;
 - 11 - Reproductive Toxicity.
- Minor updates in other areas.
...End Of MSDS...

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