

Infosafe No™ 3NUY8	Issue Date : June 2017	ISSUED by NUFARM
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 Product Name **Arrow C Seed Dressing Flowable**

Not classified as hazardous

1. Identification

GHS Product Identifier Arrow C Seed Dressing Flowable

Product Code 5707

Product Type Group 3 Fungicide
Group 3A Insecticide

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

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Victoria 3026 Australia

Telephone/Fax Number Tel: +61 3 9282-1000
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Emergency phone number 1800 033 498 (24hr Australia)

Recommended use of the chemical and restrictions on use Flowable seed dressing treatment for wheat and barley to protect against various diseases and for protection against insect pests of stored grain as per the directions for use table on the label.

Other Information This Safety Data Sheet describes the properties of the concentrated product. The physical properties and the assessments may not apply to the properties of the product once it has been diluted for application.

2. Hazard Identification

Other Information Poisons Schedule S6
Not classified as hazardous under the GHS criteria.

3. Composition/information on ingredients

Chemical Characterization Liquid

Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Flutriafol	76674-21-0	100 g/L
	Cypermethrin	52315-07-8	4 g/L
	Other non hazardous ingredients		30-60 %
	Water		Balance

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.
Rinse mouth and then drink plenty of water.

Skin If skin contact occurs, remove contaminated clothing and wash skin thoroughly with water.
If irritation persists, seek medical advice.

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

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 Non-combustible.
If involved in a fire, the dehydrated components may emit hydrogen fluoride and oxides of nitrogen.

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Special Protective Equipment for fire fighters	Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.
Specific hazards arising from the chemical	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.
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.
Environmental Precautions	Use earthen bunds or absorbent bunding to prevent spreading of spillage. Prevent from entering drains, waterways or sewers.

7. Handling and storage

Precautions for Safe Handling	Seed treated with this product must not be used for human consumption or be allowed to contaminate seed intended for human consumption.
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. Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs. Store in a locked enclosure. Treated seed, when stored, should be kept apart from other seed. The containers should be clearly marked to indicate the contents have been treated with this product.
Tank Cleaning	Equipment used should be cleaned with water. A detergent may be used to assist in the removal of dry deposits.
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 recommended by the supplier for flutriafol at 1.5 mg/m ³ . An exposure standard has been set for propylene glycol at 474 mg/m ³ .
Appropriate engineering controls	Handle in well ventilated areas, generally natural ventilation is adequate.
Personal Protective Equipment	It is good practice to wear suitable personal protective equipment (PPE). 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.
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	Green liquid
Boiling Point	~100°C (water)
Solubility in Water	Disperses in water.
Specific Gravity	1.06
pH	5 - 6

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Vapour Pressure	Flutriafol 7.1 x 10 ⁻⁶ mPa @ 20°C; Cypermethrin 2 x 10 ⁻⁴ mPa @ 20°C.
Partition Coefficient: n-octanol/water	Kow Log P is 2.3 for flutriafol and 6.6 for cypermethrin
Flammability	Non combustible material.

10. Stability and reactivity

Chemical Stability	Stable under normal conditions.
Hazardous Polymerization	Hazardous polymerisation is not possible.

11. Toxicological Information

Toxicology Information	No harmful effects are expected if the precautions on the label and this MSDS are followed.
Acute Toxicity - Oral	LD50 (rat) 1140 mg/kg for flutriafol LD50 (rat) 250 - 4150 mg/kg for cypermethrin
Acute Toxicity - Dermal	LD50 (rat) >1000 mg/kg for flutriafol
Acute Toxicity - Inhalation	LC50 (rat) (4hr) >5.25 mg/l for flutriafol LC50 (rat) (4hr) 2.5 mg/l for cypermethrin
Ingestion	Possible symptoms of exposure include: nausea, vomiting and gastrointestinal discomfort and diarrhoea.
Inhalation	May cause irritation to the respiratory tract.
Skin	May irritate the skin.
Eye	May irritate the eyes.
Skin Sensitisation	Skin contact may produce skin sensations such as numbing, burning and tingling. These sensations are reversible and usually subside within 12 hours.
Carcinogenicity	Data indicates no carcinogenic effects.
Reproductive Toxicity	Data indicates no teratogenic effects for flutriafol. At doses toxic to maternal animals, flutriafol has been shown to produce developmental toxicity in a number of species. NOEL: 10 mg/kg/day (rat); and NOEL 7.5 mg/kg/day (rabbit).
Chronic Effects	Evidence from animal studies indicate that repeated or prolonged exposure to flutriafol (in significant quantities) can result in liver damage.
Serious eye damage/irritation	Mild eye irritant.
Skin corrosion/irritation	Mild skin irritant.
Other Information	The Australian Acceptable Daily Intake (ADI) for flutriafol for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1 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', March 2016). ADI for cypermethrin is 0.05 mg/kg/day, NOEL 5 mg/kg/day.

12. Ecological information

Persistence and degradability	Average field half life of cypermethrin is 60 days. Flutriafol is essentially insoluble in water and has low mobility in soil. There is evidence of rapid degradation in soil and hydrolysis in water. The expected half life in water is 5 days. The product is applied to seed for sowing - use pattern restricts movement into the environment.
Known Harmful Effects on the Environment	Harmful to fish.
Other Precautions	Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.

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Do not feed or expose treated seed to wildlife and domestic animals, particularly birds.

Acute Toxicity - Fish The following is data for the active ingredient, flutriafol.
 LC50 (96hr) for rainbow trout is 61 mg/l.
 The following is data for the ingredient, cypermethrin.
 LC50 (96hr) for rainbow trout is 0.00069 mg/l

Acute Toxicity - Daphnia LC50 (48hr) for flutriafol is 78 mg/l.
 LC50 (48 hr) for cypermethrin is 0.0003 mg/l.

Acute Toxicity - Other Organisms Not toxic to birds.
 LD50 for (flutriafol) mallard ducks, female is >5,000 mg/kg
 LD50 for (cypermethrin) mallard ducks is >10,000 mg/kg
 No threat to bees as product is used as a seed dressing.

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®).
 Seed treated with this product must not be used for human or animal consumption or be allowed to contaminate seed intended for human or animal consumption. Seed should not be left exposed on the ground (particularly during sowing). Destroy treated seed not intended for sowing.

Container Disposal Do not use this container for any other purpose.
 Triple or preferably pressure rinse containers before disposal. Add rinsings to the spray tank.
 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.
 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.

14. Transport information

Transport Information It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.

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 cypermethrin)

15. Regulatory information

Regulatory Information Australia: WHS regulations (2011) - Schedule 11: classification not listed.



Safety Data Sheet

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Poisons Schedule S6
Packaging & Labelling POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Other Information This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). APVMA product number: 60142.

16. Other Information

Date of preparation or last revision of SDS 27/06/2017
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. Minor changes were made to the information and product has been rebranded.
...End Of MSDS...

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