

Infosafe No™ 3NUM8	Issue Date : June 2011	ISSUED by NUFARM
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Product Name **FLIGHT® EC Herbicide**

Classified as hazardous

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name	FLIGHT® EC Herbicide
Product Code	0222
Product Type	Group C F I Herbicide
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	For the control of certain broadleaved weeds including wild radish with developing Group I and/or F herbicide resistance in winter cereals 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 R21/22 Harmful in contact with skin and if swallowed. R23 Toxic by inhalation. R43 May cause sensitization by skin contact. R63 Possible risk of 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. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S45 In case of accident or if you feel unwell seek medical advice immediately S51 Use only in well ventilated areas.
Other Information	Poisons Schedule S6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization	Liquid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	MCPA (present as the ethyl hexyl ester)	94-74-6	350 g/L
	Bromoxynil present as the n-octanoyl ester	1689-99-2	210 g/L
	Picolinafen	137641-05-5	35 g/L
	Other ingredients (considered non-hazardous)		10-30 %

4. FIRST AID MEASURES

Inhalation	Remove affected person to fresh air until recovered. If symptoms develop or persist, 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

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placement of the patient.

The above first aid instructions are mandated by the Commonwealth Department of Health and Ageing via the National Drugs and Poisons Schedule. These instructions are suitable for ingestion of spray solution and small amounts of concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about 15ml) AND if medical assistance is more than 30 minutes away, the induction of vomiting should be CONSIDERED, preferably based on MEDICAL ADVICE if a physician can be contacted by phone. All care must be taken to prevent vomit from being inhaled. Do not give anything by mouth to a semi-conscious or unconscious person.

Skin

Wash affected areas thoroughly with soap and water.

Eye

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

Seek medical advice if irritation develops or persists.

Advice to Doctor

Treat symptomatically.

If vomiting occurs, solvent and surfactants present may cause pulmonary pneumonitis.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media Water fog, foam, carbon dioxide or dry chemical.

Hazards from Combustion Products Although material is not flammable, the concentrate is combustible.

If involved in a fire, it will emit harmful fumes of hydrogen bromide, hydrogen fluoride, hydrogen chloride, hydrogen cyanide and possibly other compounds of bromine, chlorine and nitrogen. Keep upwind.

Special Protective Equipment for fire fighters Breathable air apparatus may have to be worn in confined spaces.

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.

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.

Environmental Precautions This product is a herbicide and spills can damage crops, pastures and desirable vegetation.

7. HANDLING AND STORAGE

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

Tank Cleaning Thoroughly flush all spray equipment with water following the use of this product and before use with other products.

See label for detailed information on cleaning of spray equipment.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards No exposure standard has been established for this product.

The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m³; 17ppm TWA, as total hydrocarbon.

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

Respiratory Protection Do not inhale spray mist.

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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. Re-entry Period - Do not allow entry into treated areas for 24 hours after treatment. When prior entry is necessary, wear all protective clothing and chemical resistant gloves.
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	Dark brown liquid
Odour	Typical solvent odour
Melting Point	<0°C
Boiling Point	190 - 270°C for solvent
Solubility in Water	Disperses in water.
Specific Gravity	1.07 - 1.09
pH Value	3.5 - 4 in 1% solution
Vapour Pressure	0.19 mPa @ 25°C Bromoxynil octanoate; 0.48 mPa @ 20°C MCPA 2EHE; 0.00017 mPa @ 25°C picolinafen.
Vapour Density (Air=1)	~5 (for solvent present)
Volatile Component	10 - 20%
Octanol/Water Partition Coefficient	Kow Log P is 5.4 for Bromoxynil octanoate; 5.7 for MCPA 2EHE and 5.43 for picolinafen
Flash Point	75°C
Flammability	Combustible liquid C1.
Auto-Ignition Temperature	Not determined
Flammable Limits - Lower	0.6% for solvent
Flammable Limits - Upper	7.0% for solvent
Explosion Properties	No information

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Hazardous Reactions	Violent reactions between Flight EC and oxidising agents are possible. Avoid chlorates, nitrates, nitric acid, organic peroxides and potassium chlorate.
Hazardous Polymerization	Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION

Inhalation	High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, and may have other central nervous system effects.
Ingestion	Possible symptoms of exposure include: headache, nausea, dizziness and weakness. If aspirated into the lung, e.g. from vomiting, the presence of solvents and surfactants may result in chemical pneumonitis or other lung damage.

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Skin	May irritate the skin. Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
Eye	May irritate the eyes.
Chronic Effects	Chronic Overexposure: Weight loss and damage to liver and kidneys may be expected if exposure is excessive.
Reproductive Toxicity	Bromoxynil octanoate has been assigned R63 on the basis of studies, in rats, rabbits and mice which show reduced ossification and increased incidence of supernumerary ribs at doses (range 5-15 mg/kg/day) which are not toxic maternally. Supernumerary ribs are seen in control animals and are often seen in reproductive toxicity studies. The ribs disappear during subsequent development with rats, but not with mice. The significance of supernumerary ribs as an indicator of developmental toxicity and extrapolation to other species remain problematical. (1)
Acute Toxicity - Oral	LD50 (rat) 238 mg/kg for bromoxynil octanoate LD50 (rat) 1300 mg/kg for MCPA 2EHE LD50 (rat) >5000 mg/kg for picolinafen
Acute Toxicity - Dermal	LD50 (rat) >2000 mg/kg for bromoxynil octanoate and MCPA 2EHE LD50 (rat) >4000 mg/kg for picolinafen
Acute Toxicity - Inhalation	LC50 (rat) (4hr) 0.72 mg/l for bromoxynil octanoate LC50 (rat) (4hr) >3.1 mg/l for MCPA 2EHE LC50 (rat) (4hr) >5.9 mg/l for picolinafen
Eye Irritation	The product is an eye irritant.
Skin Irritation	Mild to moderate skin irritant.
Skin Sensitisation	Bromoxynil octanoate is a skin sensitiser.
Other Information	The Australian Acceptable Daily Intake (ADI) for bromoxynil for a human is 0.003 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.3 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 and Environmental Health, 'ADI List', March 2010). ADI for MCPA is 0.01 mg/kg/day, NOEL 1.1 mg/kg/day. ADI for Picolinafen is 0.007 mg/kg/day, NOEL 1.4 mg/kg/day.

12. ECOLOGICAL INFORMATION

Known Harmful Effects on the Environment	Harmful to fish and other aquatic organisms.
Other Precautions	Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.
Environ. Protection	Marine pollutant. Spray drift can cause damage, read the label for more information.
Acute Toxicity - Fish	The following is data for the active ingredient, bromoxynil octanoate. Toxic to fish. LC50 (96hr) for rainbow trout is 0.041 mg/l. LC50 (96hr) for rainbow trout is 1.15 mg/l for MCPA 2EHE LC50 (48hr) for daphnia is 0.046 mg/l for bromoxynil octanoate.
Acute Toxicity - Daphnia	
Acute Toxicity - Algae	EC50 for algae is 0.00018 mg/l for picolinafen
Acute Toxicity - Other Organisms	Bees: Not toxic to bees. LD50 >100 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®).
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.

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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.

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 Storage and Transport	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs. 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.
UN Number (Sea Transport)	For bulk shipments as Class 9, use UN 3082, HazChem code 2Z. 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 Bromoxynil octanoate and picolinafen)

15. REGULATORY INFORMATION

Poisons Schedule	S6
Packaging & Labelling	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Hazard Category	Toxic, Irritant
AICS (Australia)	All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Date of preparation or last revision of MSDS	Revised 28/06/2011	
Contact Person/Point	Normal Hours: Mrs Kathleen Marsh	Phone: +61 3 9282 1000
Literature References	After Hours: Shift Supervisor	Phone: 1800 033 498
Revisions	(1) Krieger ed. (2001), Handbook of Pesticide Toxicology Second Edition Vol.2 Agents - Academic Press	
Highlighted Other Information	The MSDS was reviewed. Minor changes were made to the information.	
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