

MATERIAL SAFETY DATA SHEET

Date of Issue: March 21, 2007



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name **Aliette® WG Systemic Fungicide**

Other names None

Product codes and pack sizes 4207725 (1 kg)

Chemical group Phosphonate

Recommended use Fungicide for agricultural use

Formulation Water dispersible granule (WG)

Supplier Bayer CropScience Pty Ltd ABN 87 000 226 022

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Emergency

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2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW **HAZARDOUS SUBSTANCE (see Risk phrases below) – NON DANGEROUS GOOD**

Hazard classification Hazardous (National Occupational Health and Safety Commission - NOHSC)

Risk phrases R36 – Irritating to eyes.

Safety phrases See Sections 4, 5, 6, 7, 8, 10, 12, 13

ADG classification Not a "Dangerous good" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

SUSDP classification (Poison Schedule) Exempt (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/kg)
Fosetyl-aluminium	[39148-24-8]	800
Precipitated silica	[112926-00-8]	15
Other ingredients, including surfactants and carriers	(non hazardous)	185

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4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to the doctor.

Inhalation	If inhaled remove to fresh air and keep at rest. Obtain medical advice if symptoms persist. If not breathing give artificial respiration and get medical attention as soon as possible.
Skin contact	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if symptoms persist.
Eye contact	Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid, preferably from an ophthalmologist.
Ingestion	Wash out mouth with water. Do NOT induce vomiting. Keep patient at rest and seek medical advice as above.
First Aid Facilities	Ensure washing facilities are available, including an eyewash station.
Medical attention	Fosetyl-aluminium is a phosphonate compound of low toxicity which does not inhibit cholinesterase. Possible symptoms: <i>Local</i> – irritation of eyes, skin and mucous membranes. <i>Systemic</i> – unknown – none reported. Treat symptoms. There is no specific antidote.

5. FIRE FIGHTING MEASURES

Extinguishing media	Foam, carbon dioxide, dry powder
Hazards from combustion products	In a fire, oxides of carbon (e.g. carbon monoxide), nitrogen and phosphorus (e.g. phosphorus pentoxide) and phosphine gas may be formed.
Precautions for fire fighters	Dust may form explosive mixtures with air. Toxic decomposition products may be produced in a fire. Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of extinguishing agent and spillage safely later.
Hazchem code	Not applicable

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. Do not smoke, eat or drink during the clean up process. Avoid breathing dust. Wear personal protective clothing and equipment as detailed in Section 8 PERSONAL PROTECTION. Keep people and animals away. Contain spillage. Avoid creating dust by damping down. Prevent spilled material from entering drains or watercourses. Shovel or sweep up, and transfer into plastic drums. Clean floor with a damp cloth and place it in the drum. Seal drums and label ready for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses etc. is unavoidable, warn the local water authority.

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7. HANDLING AND STORAGE

Handling	Keep out of reach of children. May irritate the eyes. Avoid contact with eyes and skin. Avoid inhaling dust. Wash hands after use.
Storage	Store in the closed, original container in a dry, cool, well-ventilated area, out of direct sunlight.
Flammability	Low flammability. However, if a dust forms, dust / air mixtures can be explosive.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	The NOHSC exposure standard (TWA) for precipitated silica is 10 mg/m ³ . The ACGIH TLV – TWA for Aluminium compounds, expressed as aluminium is 2 mg/m ³ . <u>Definitions:</u> <i>Exposure standard – Time Weighted Average (TWA)</i> means the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week. <i>TLV – TWA</i> = Threshold Limit Value – Time Weighted Average. The TWA concentration for a conventional 8-hour workday and a 40-hour work week, to which it is believed that nearly all workers may be repeatedly exposed, day after day, for a working lifetime without adverse effect. <i>ACGIH</i> = American Conference of Governmental Industrial Hygienists	
Biological limit values	None allocated	
Engineering controls	Control process conditions to avoid contact. Use local exhaust ventilation to keep exposure levels below the exposure limits above and in situations where dust may be formed.	
Personal Protective Equipment	Eyes:	Safety goggles
	Clothing:	Cotton overalls buttoned to the neck and wrist
	Gloves:	Elbow-length PVC gloves
	Respiratory:	If airborne concentrations are likely to exceed the exposure standards above, an AS/NZS 1715/1716 approved respirator should be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Flowable grey brown granules
Odour:	Acidic odour
pH:	3 - 4 (10 g/L in water)
Vapour pressure:	< 10 ⁻⁴ mPa at 25° C (<i>fosetyl-aluminium</i>)
Vapour density:	Not available
Boiling point:	Not applicable
Freezing/melting point:	Not available
Solubility:	Dispersible in water
Bulk density:	0.62 to 0.66 g/cm ³ (loose)
Flash Point:	Not applicable
Flammability (explosive) limits:	Not available

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9. PHYSICAL AND CHEMICAL PROPERTIES - continued

Auto-ignition temperature: Not available
Partition coefficient (octanol/water): *Fosetyl-aluminium*: Log P_{ow} = - 2.1 at 22° C

10. STABILITY AND REACTIVITY

Chemical stability Stable under normal conditions of use.

Conditions to avoid Heat, moisture. Prevent formation of dust.

Incompatible materials Avoid strong acids, strong bases, strong oxidising agents, strong reducing agents, and extreme humidity.

Hazardous decomposition products In a fire, oxides of carbon (e.g. carbon monoxide), nitrogen and phosphorus (e.g. phosphorus pentoxide) and phosphine gas may be formed.

Hazardous reactions None

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation This product is expected to have low toxicity by inhalation, but dust may cause respiratory irritation.

Skin contact May irritate skin.

Eye contact Irritating to eyes.

Ingestion Low toxicity, but may be harmful if a large amount is swallowed.

ANIMAL TOXICITY DATA – *PRODUCT*

Acute:

Oral toxicity LD₅₀ rat: 2860 mg/kg

Dermal toxicity LD₅₀ rabbit: > 2020 mg/kg

Inhalation toxicity LC₅₀ rat: > 5.02 mg/L – 4 hour exposure to dust

Skin irritation Slightly irritating (rabbit)

Eye irritation Irritating (rabbit)

Sensitisation Non sensitising (guinea pig)

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11. TOXICOLOGICAL INFORMATION - continued

Chronic:

Fosetyl-aluminium is not mutagenic, not carcinogenic and not teratogenic.

12. ECOLOGICAL INFORMATION

This product is toxic to aquatic and estuarine invertebrates. It has a low hazard to earthworms and bees. DO NOT contaminate streams, rivers or waterways with Aliette WG or the used containers.

Ecotoxicity

Fosetyl-aluminium:

Fish toxicity: LC₅₀ (96 h) rainbow trout > 122 mg/L

Daphnia toxicity: *Daphnia magna* LC₅₀ (48 h) > 100 mg/L

Algal toxicity: IC₅₀ (72 h) algae (*Desmodesmus subspicatus*) > 16 mg/L

Bird toxicity:

Acute oral LD₅₀ bobwhite quail > 8000 mg/kg

Aliette WG Fungicide (similar formulation):

Fish toxicity: LC₅₀ (96 h) rainbow trout > 120 mg/L

Daphnia toxicity: *Daphnia magna* LC₅₀ (48 h) 37 mg/L

Algal toxicity: ErC₅₀ algae (*Scenedesmus subspicatus*) 8 mg/L

Environmental fate, persistence and degradability, mobility

In soil, fosetyl-aluminium has an extremely short half-life under both aerobic and anaerobic conditions, with rapid dissipation and metabolism; DT₅₀ (aerobic) 20 minutes to 1.5 hours. In microbially active water / sediment systems, fosetyl-aluminium is rapidly degraded; DT₅₀ 14 – 40 hours. Aliette WG is readily biodegradable.

13. DISPOSAL CONSIDERATIONS

Shake empty bag into spray tank. DO NOT dispose of undiluted chemicals on site. Puncture, or shred and bury empty containers in a local authority landfill. If no landfill is available, bury the empty containers below 500 mm 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. Unwanted product should be disposed of by a reputable waste disposal contractor.

14. TRANSPORT INFORMATION

UN number	Not applicable
Proper shipping name	Not applicable
Class and Subsidiary Risk	Not applicable
Packing Group	Not applicable
EPG	Not applicable
Hazchem code	Not applicable
Marine Pollutant	No

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15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

Australian Pesticides and Veterinary Medicines Authority approval number: 46798

See also Section 2.

16. OTHER INFORMATION

Trademark information Aliette® is a Registered Trademark of Bayer.

Preparation information Replaces August 1, 2002 MSDS.
Reasons for revision: 16 heading format, product codes and pack sizes, Change from Non-Hazardous to Hazardous (eye irritation), Composition / Information on Ingredients, Extinguishing media, Exposure Standards, Physical and Chemical Properties, Chronic toxicity (removed references to crystalline silica), Ecological Information, Disposal.

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

END OF MSDS