



Material Safety Data Sheet

ALIETTE® SYSTEMIC FUNGICIDE WATER DISPERSABLE GRANULE

MSDS Number: 102000004006

MSDS Version 2.1

Revision Date: 08/14/2008

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name ALIETTE® SYSTEMIC FUNGICIDE WATER DISPERSABLE GRANULE
MSDS Number 102000004006
PCP Registration No. 27688

Bayer CropScience Inc
 #100 - 3131 - 114th Avenue SE
 Calgary, AB T2Z 3X2
 Canada

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
 For Product Information call: 1-888-283-6847

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Fosetyl Aluminium	39148-24-8	80.00
Nonylphenol ethoxylate, branched	68412-54-4	8.40
Lignosulfonic acid, sodium salt, sulfomethylated	68512-34-5	4.40
Synthetic amorphous silica	112926-00-8	1.70
Quartz (Silica, Crystalline)	14808-60-7	0.12
Crystalline quartz (respirable)		

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Warning! Causes eye irritation. Causes moderate eye injury. Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes and clothing.

Physical State water-dispersible granules

Odor characteristic

Appearance light brown

Routes of Exposure Eye contact, Skin Absorption, Ingestion, Inhalation

Immediate Effects

Eye Causes irritation, redness. Causes moderate eye injury. Avoid contact with eyes.

Skin Causes irritation, redness, swelling. Harmful if absorbed through skin. Avoid contact with skin and clothing.



Material Safety Data Sheet

MSDS Number: 102000004006
MSDS Version 2.1

ALIETTE® SYSTEMIC FUNGICIDE WATER DISPERSABLE GRANULE

Ingestion	Harmful if swallowed. Do not take internally.
Inhalation	May cause upper respiratory tract irritation. Harmful if inhaled. Avoid breathing dust.
Chronic or Delayed Long-Term	This product is not listed as a carcinogen by ACGIH, NTP, IARC or OSHA. However, it may contain crystalline silica (quartz), a substance which has been listed as a carcinogen by ACGIH, NTP and IARC. Crystalline silica is a naturally-occurring mineral component of many sands and clays. Although the carcinogenic potential of crystalline silica in humans is controversial, it must be considered if it is inhaled under excessive exposure conditions. The respirable portion of the silica that may be contained in this product, however, is small, such that inhalation exposure during anticipated conditions of use is minimal.
Medical Conditions Aggravated by Exposure	No specific medical conditions are known which may be aggravated by exposure to this product. As with all materials which can cause upper respiratory tract irritation, persons with a history of asthma, emphysema, or hyperreactive airways disease may be more susceptible to overexposure. Pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica. Skin contact may aggravate existing skin disease.
Potential Environmental Effect	Toxic to aquatic and estuarine invertebrates.

SECTION 4. FIRST AID MEASURES

General	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Eye	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Skin	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person.
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Notes to Physician Signs and	The following symptoms may occur:



Material Safety Data Sheet

MSDS Number: 102000004006
MSDS Version 2.1

ALIETTE® SYSTEMIC FUNGICIDE WATER DISPERSABLE GRANULE

Symptoms	The product causes irritation of eyes, skin and mucous membranes.
Treatment	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	not applicable
Autoignition Temperature	no data available
Lower Flammability Limit	no data available
Upper Flammability Limit	no data available
Fire and Explosion Hazards	In the event of fire the following can be released: Carbon monoxide (CO) Nitrogen oxides (NOx) Oxides of phosphorus Accumulation of fine dust may entail the risk of a dust explosion in the presence of air.
Suitable Extinguishing Media	Foam, Dry powder, Carbon dioxide (CO2)
Fire Fighting Instructions	Keep out of smoke. Fight fire from upwind position. Do not allow run-off from fire fighting to enter drains or water courses. Contain the spread of the fire-fighting media. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
Methods for Cleaning Up	Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. Decontaminate tools and equipment following cleanup.



Material Safety Data Sheet

MSDS Number: 102000004006
MSDS Version 2.1

ALIETTE® SYSTEMIC FUNGICIDE WATER DISPERSABLE GRANULE

Additional Advice Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

SECTION 7. HANDLING AND STORAGE

Handling Procedures Use only in area provided with appropriate exhaust ventilation.

Storing Procedures Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Keep away from food, drink and animal feedingstuffs.

Work/Hygienic Procedures Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

Follow all label instructions. Train employees in safe use of the product.

Eye/Face Protection Goggles
or
Face-shield

Hand Protection Chemical resistant nitrile rubber gloves

Body Protection Wear long-sleeved shirt and long pants and shoes plus socks.
Consideration must be given both to durability as well as permeation resistance.

Respiratory Protection When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a



Material Safety Data Sheet

ALIETTE® SYSTEMIC FUNGICIDE WATER DISPERSABLE GRANULE

MSDS Number: 102000004006
MSDS Version 2.1

self-contained breathing apparatus unit.

Exposure Limits

Fosetyl Aluminium	39148-24-8	OES BCS*		10 mg/m3
Synthetic amorphous silica	112926-00-8	OEL (QUE)	TWA	6 mg/m3
		CAD AB OEL	TWA	10 mg/m3
		CAD BC OEL	TWA	4 mg/m3
		CAD BC OEL	TWA	1.5 mg/m3
		CAD ON OEL	TWA	10 mg/m3
Quartz (Silica, Crystalline)	14808-60-7	OEL (QUE)	TWA	0.1 mg/m3
		CAD AB OEL	TWA	0.1 mg/m3
		CAD BC OEL	TWA	0.025 mg/m3
		CAD ON OEL	TWA	0.10 mg/m3

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	light brown
Physical State	water-dispersible granules
Odor	characteristic
pH	3.5 - 4.0 (1.0 %) at 23 °C
Vapor Pressure	no data available
Vapor Density (Air = 1)	no data available
Bulk Density	28 - 35 lb/ft ³
Evaporation rate	no data available
Boiling Point	not applicable
Melting / Freezing Point	not applicable
Water solubility	dispersible
Minimum Ignition Energy	no data available



Material Safety Data Sheet

ALIETTE® SYSTEMIC FUNGICIDE WATER DISPERSABLE GRANULE

MSDS Number: 102000004006

MSDS Version 2.1

Partition coefficient: n-octanol/water log Pow: -2.1
The value mentioned relates to the active ingredient fosetyl aluminium.

SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid	Exposure to moisture.
Incompatibility	Strong acids Strong bases Strong oxidizing agents strong reducing agents
Hazardous Decomposition Products	Thermal decomposition Oxides of phosphorus Carbon dioxide (CO ₂) Carbon monoxide phosphine gas
Hazardous Reactions	No hazardous reactions when stored and handled according to prescribed instructions. Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the technical-grade active ingredient, fosetyl aluminium.

Acute Oral Toxicity	male/female combined rat: LD50: 2,860 mg/kg
Acute Dermal Toxicity	rabbit: LD50: > 2,020 mg/kg
Acute Inhalation Toxicity	male/female combined rat: LC50: > 5 mg/l Exposure time: 4 h Determined in the form of dust. male/female combined rat: LC50: > 20.0 mg/l Exposure time: 1 h Determined in the form of dust. Extrapolated from the 4 hr LC50.
Skin Irritation	rabbit: Slight irritation.
Eye Irritation	rabbit: Mild eye irritation.
Sensitization	guinea pig: Non-sensitizing.
Chronic Toxicity	Fosetyl-al caused adrenal, urinary bladder and/or testicular effects in chronic



Material Safety Data Sheet

MSDS Number: 102000004006
MSDS Version 2.1

ALIETTE® SYSTEMIC FUNGICIDE WATER DISPERSABLE GRANULE

studies in rats and dogs.

Assessment Carcinogenicity

Fosetyl-al was not carcinogenic in an oncogenicity study in mice. In a carcinogenicity study in rats, an increased incidence of urinary bladder tumors were seen at extremely high doses not likely to occur outside the experimental laboratory. Therefore, EPA concluded that fosetyl-al is not likely to pose a carcinogenic hazard to humans.

ACGIH

Quartz (Silica, Crystalline) 14808-60-7 Group A2

NTP

Crystalline quartz (respirable)

IARC

Quartz (Silica, Crystalline) 14808-60-7 Overall evaluation: 1

OSHA

None.

Reproductive & Developmental Toxicity

REPRODUCTION: Fosetyl-al was not a reproductive toxicant in a multi-generation reproduction study in rats.

DEVELOPMENTAL TOXICITY: Fosetyl-al was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed in rats but were considered secondary to maternal toxicity.

Mutagenicity

Fosetyl-al was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions

Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

Follow container label instructions for disposal of wastes generated during use in compliance with the product label. Dispose in accordance with all local, state/provincial and federal regulations.

Container Disposal

Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke.



Material Safety Data Sheet

ALIETTE® SYSTEMIC FUNGICIDE WATER DISPERSABLE GRANULE

MSDS Number: 102000004006
MSDS Version 2.1

SECTION 14. TRANSPORT INFORMATION

TDG (Canada):
Not regulated for road or rail.
UN/NA NUMBER: NONE
PLACARDS: NONE
IATA: NOT REGULATED FOR TRANSPORTATION
IMO IMDG-code: NONE

SECTION 15. REGULATORY INFORMATION

PCP Registration No. 27688

US Federal Regulations

TSCA list

Nonylphenol ethoxylate, branched	68412-54-4
Lignosulfonic acid, sodium salt, sulfomethylated	68512-34-5
Quartz (Silica, Crystalline)	14808-60-7

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

None.

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

None.

US States Regulatory Reporting

CA Prop65

This product contains a chemical known to the State of California to cause cancer.
Crystalline quartz (respirable)

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

Synthetic amorphous silica	112926-00-8	MN
Quartz (Silica, Crystalline)	14808-60-7	IL, MA, MN

Canadian Regulations

Canadian Domestic Substance List

Nonylphenol ethoxylate, branched	68412-54-4
Lignosulfonic acid, sodium salt, sulfomethylated	68512-34-5
Synthetic amorphous silica	112926-00-8
Quartz (Silica, Crystalline)	14808-60-7

Environmental



Material Safety Data Sheet

MSDS Number: 102000004006
MSDS Version 2.1

ALIETTE® SYSTEMIC FUNGICIDE WATER DISPERSABLE GRANULE

CERCLA

None.

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 0 Reactivity - 0 Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Updated for general editorial purposes. Updated Section 2: Composition/Information on Ingredients. Updated Section 11: Toxicology Information.

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

Revision Date: 08/14/2008

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.