



Material Safety Data Sheet
ALIETTE® WDG BRAND FUNGICIDE

MSDS Number: 102000004006
 MSDS Version 2.1
 Revision Date: 08/14/2008

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name ALIETTE® WDG BRAND FUNGICIDE
MSDS Number 102000004006
EPA Registration No. 264-516

Bayer CropScience
 2 T.W. Alexander Drive
 Research Triangle PK, NC 27709
 USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
 For Product Information call: 1-866-99BAYER (1-866-992-2937)

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 Caution! Harmful if swallowed, inhaled or absorbed through the skin. Causes moderate eye injury. 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.



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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 Symptoms	The following symptoms may occur: The product causes irritation of eyes, skin and mucous membranes.



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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

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.

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.



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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 self-contained breathing apparatus unit.

Exposure Limits

Fosetyl Aluminium	39148-24-8	OES BCS*		10 mg/m3
Synthetic amorphous silica	112926-00-8	OSHA Z1A	TWA	6 mg/m3
		TX ESL	ST ESL	40 ug/m3
		TX ESL	AN ESL	4 ug/m3
Quartz (Silica, Crystalline)	14808-60-7	ACGIH	TWA	0.025 mg/m3
		NIOSH	REL	0.05 mg/m3
		OSHA Z1A	TWA	0.1 mg/m3



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Z3	TWA	2.4 millions of particles per cubic foot of air
Z3	TWA	0.1 mg/m3
Z3	TWA	0.3 mg/m3
US CA OEL	TWA PEL	0.1 mg/m3
US CA OEL	TWA PEL	0.3 mg/m3
TX ESL	ST ESL	1 ug/m3
TX ESL	ST ESL	1 ug/m3
TX ESL	AN ESL	0.1 ug/m3
TX ESL	AN ESL	0.1 ug/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
Bulk Density	28 - 35 lb/ft ³
Water solubility	dispersible
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.



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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 aluminum.

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 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
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NTP

Crystalline quartz (respirable)

IARC

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



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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.

SECTION 14. TRANSPORT INFORMATION

TRANSPORTATION CLASSIFICATION:
 Not regulated for transportation by any mode

FREIGHT CLASSIFICATION:
 Insecticides or Fungicides N.O.I., other than poison

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 264-516

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



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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

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.

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