SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name: ALIETTE® WDG FUNGICIDE
Product code (UVP): 79386508, 80910347
SDS Number: 102000019662
EPA Registration No.: 264-516

Relevant identified uses of the substance or mixture and uses advised against

Use: Fungicide
Restrictions on use: See product label for restrictions.

Information on manufacturer

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

Emergency Telephone Number (24hr/ 7 days): 1-800-334-7577
Product Information Telephone Number: 1-866-99BAYER (1-866-992-2937)
SDS Information or Request: SDSINFO.BCS-NA@bayer.com

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Eye irritation: Category 2B
Signal word: Warning

Hazard statements
Causes eye irritation.

Precautionary statements
Wash thoroughly after handling.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Other hazards
No other hazards known.
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Average % by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fosetyl Aluminium</td>
<td>39148-24-8</td>
<td>80.00</td>
</tr>
<tr>
<td>Nonylphenol ethoxylate, branched</td>
<td>68412-54-4</td>
<td>6.18</td>
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<tr>
<td>Lignosulfonic acid, sodium salt, sulfomethylated</td>
<td>68512-34-5</td>
<td>4.40</td>
</tr>
<tr>
<td>Crystalline quartz (respirable)</td>
<td>14808-60-7</td>
<td>0.16</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

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.

Skin contact
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.

Eye contact
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.

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. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

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

Indication of any immediate medical attention and special treatment needed

Treatment
Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable
Foam, Dry powder, Carbon dioxide (CO2)

Unsuitable
None known.
Special hazards arising from the substance or mixture
In the event of fire the following may be released: Carbon monoxide (CO), Nitrogen oxides (NOx), Oxides of phosphorus.

Advice for firefighters
Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information
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.

Flash point
not applicable

Autoignition temperature
no data available

Lower explosion limit
not applicable

Upper explosion limit
not applicable

Explosivity
no data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Precautions
Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up
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.

Reference to other sections
Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
Advice on safe handling
Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Handle and open container in a manner as to prevent spillage.

Hygiene measures
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.

**Conditions for safe storage, including any incompatibilities**

**Requirements for storage areas and containers**

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

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fosetyl Aluminium</td>
<td>39148-24-8</td>
<td>10 mg/m3 (TWA)</td>
<td></td>
<td>OES BCS*</td>
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<tr>
<td>Crystalline quartz (respirable)</td>
<td>14808-60-7</td>
<td>0.025 mg/m3 (TWA)</td>
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<td>ACGIH</td>
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<tr>
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<td>14808-60-7</td>
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<td>NIOSH</td>
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<td>Crystalline quartz (respirable)</td>
<td>14808-60-7</td>
<td>0.1 mg/m3 (TWA)</td>
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<td>OSHA Z1A</td>
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<tr>
<td>Crystalline quartz (respirable)</td>
<td>14808-60-7</td>
<td>0.1 mg/m3 (TWA)</td>
<td>06 2008</td>
<td>TN OEL</td>
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<tr>
<td>Crystalline quartz (respirable)</td>
<td>14808-60-7</td>
<td>0.27 ug/m3 (AN ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
</tr>
<tr>
<td>Crystalline quartz (respirable)</td>
<td>14808-60-7</td>
<td>14 ug/m3 (ST ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
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<td>Crystalline quartz (respirable)</td>
<td>14808-60-7</td>
<td>0.3 mg/m3 (TWA PEL)</td>
<td>08 2010</td>
<td>US CA OEL</td>
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<tr>
<td>Crystalline quartz (respirable)</td>
<td>14808-60-7</td>
<td>0.1 mg/m3 (TWA PEL)</td>
<td>08 2010</td>
<td>US CA OEL</td>
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<tr>
<td>Crystalline quartz (respirable)</td>
<td>14808-60-7</td>
<td>2.4 millions of particles per cubic foot of air (TWA)</td>
<td>2000</td>
<td>Z3</td>
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<tr>
<td>Crystalline quartz (respirable)</td>
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<td>0.1 mg/m3 (TWA)</td>
<td>2000</td>
<td>Z3</td>
</tr>
<tr>
<td>Crystalline quartz</td>
<td>14808-60-7</td>
<td>0.3 mg/m3</td>
<td>2000</td>
<td>Z3</td>
</tr>
</tbody>
</table>
BAYER CROPSCIENCE
SAFETY DATA SHEET

ALIETTE® WDG FUNGICIDE
Version 2.0 / USA
102000019662

5/10
Revision Date: 03/18/2014
Print Date: 01/23/2015

(respirable) (Total dust.) (TWA)

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

Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

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.

Hand protection
Chemical resistant nitrile rubber gloves

Eye protection
Safety glasses with side-shields

Skin and body protection
Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures
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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>grey to tan</td>
</tr>
<tr>
<td>Physical State</td>
<td>dry, free flowing granules</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
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<tr>
<td>Odour Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>pH</td>
<td>3.0 - 4.0 at 5.0 %</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>not applicable</td>
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<tr>
<td>Vapor Density (Air = 1)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Bulk density</td>
<td>28 - 35 lb/ft³</td>
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<tr>
<td>Evaporation rate</td>
<td>not applicable</td>
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<tr>
<td>Boiling Point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
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</tr>
<tr>
<td>Water solubility</td>
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<tr>
<td>Minimum Ignition Energy</td>
<td>no data available</td>
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<tr>
<td>Decomposition temperature</td>
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</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>no data available</td>
</tr>
</tbody>
</table>
Viscosity
not applicable

Flash point
not applicable

Autoignition temperature
no data available

Lower explosion limit
not applicable

Upper explosion limit
not applicable

Explosivity
no data available

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition
no data available

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
No hazardous reactions when stored and handled according to prescribed instructions.

Conditions to avoid
Exposure to moisture.

Incompatible materials
Strong acids, Strong bases, Strong oxidizing agents, Strong reducing agents

Hazardous decomposition products
No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes
Eye contact, Skin Absorption, Ingestion, Inhalation

Immediate Effects

Eye
Causes irritation, redness. Causes moderate eye injury.

Skin
Causes irritation, redness, swelling. Harmful if absorbed through skin.

Ingestion
Harmful if swallowed.

Inhalation
May cause upper respiratory tract irritation. Harmful if inhaled.

Information on toxicological effects

Acute oral toxicity
LD50 (male/female combined rat) 2,860 mg/kg

Acute inhalation toxicity
LC50 (male/female combined rat) > 5 mg/l
Exposure time: 4 h
Determined in the form of dust.

LC50 (male/female combined rat) > 20.0 mg/l
Exposure time: 1 h
Determined in the form of dust. Extrapolated from the 4 hr LC50.

**Acute dermal toxicity**
LD50 (rabbit) > 2,020 mg/kg

**Skin irritation**
Slight irritation (rabbit)

**Eye irritation**
Mild eye irritation (rabbit)

**Sensitisation**
Non-sensitizing (guinea pig)

**Assessment repeated dose toxicity**
Fosetyl Aluminium did not cause specific target organ toxicity in experimental animal studies.

**Assessment Mutagenicity**
Fosetyl Aluminium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment Carcinogenicity**
Fosetyl Aluminium was not carcinogenic in lifetime feeding studies in rats and mice.

**ACGIH**
Crystalline quartz (respirable) 14808-60-7 Group A2

**NTP**
Crystalline quartz (respirable) 14808-60-7

**IARC**
Crystalline quartz (respirable) 14808-60-7 Overall evaluation: 1

**OSHA**
None.

**Assessment toxicity to reproduction**
Fosetyl Aluminium did not cause reproductive toxicity in a two-generation study in rats.

**Assessment developmental toxicity**
Fosetyl Aluminium did not cause developmental toxicity in rats and rabbits.

**Further information**
Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the active ingredient(s).

**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity to fish**
LC50 (Rainbow trout (Oncorhynchus mykiss)) > 120 mg/l
Exposure time: 96 h
Test conducted with a similar formulation.

**Toxicity to aquatic invertebrates**
EC50 (Water flea (Daphnia magna)) 37 mg/l
Exposure time: 48 h
Test conducted with a similar formulation.
Toxicity to aquatic plants
EC50 (Scenedesmus subspicatus) 27.7 mg/l
Growth rate; Exposure time: 72 h
Test conducted with a similar formulation.

Biodegradability
Fosetyl Aluminium: rapidly biodegradable

Koc
Fosetyl Aluminium: Koc: 0.1

Bioaccumulation
Fosetyl Aluminium: Does not bioaccumulate.

Mobility in soil
Fosetyl Aluminium: Highly mobile in soils

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

Waste treatment methods

Product
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.

Contaminated packaging
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.
Follow advice on product label and/or leaflet.

RCRA Information
Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.

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
Crystalline quartz ( respirable) 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) 14808-60-7

US State Right-To-Know Ingredients
Crystalline quartz ( respirable) 14808-60-7  MN

Canadian Regulations
Canadian Domestic Substance List
Nonylphenol ethoxylate, branched 68412-54-4
Lignosulfonic acid, sodium salt, sulfomethylated 68512-34-5
Crystalline quartz ( respirable) 14808-60-7

Environmental
CERCLA
None.

Clean Water Section 307 Priority Pollutants
None.

Safe Drinking Water Act Maximum Contaminant Levels
None.

International Regulations
European Inventory of Existing Commercial Substances (EINECS)
Fosetyl Aluminium 39148-24-8
Crystalline quartz ( respirable) 14808-60-7

EPA/FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:
Signal word: Caution!

Hazard statements: Harmful if swallowed, inhaled or absorbed through the skin. Causes moderate eye injury. Avoid contact with skin, eyes and clothing.

SECTION 16: OTHER INFORMATION

NFPA 704 (National Fire Protection Association):
Health - 2 Flammability - 0 Instability - 0 Others - none

Health - 2 Flammability - 0 Physical Hazard - 0 PPE - 0
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

Revision Date: 03/18/2014

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.