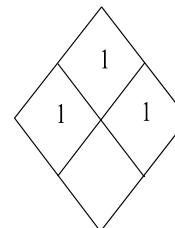


MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BAYLETON® 50% Dry Flowable Fungicide
GENERAL USE: Systemic Fungicide
CHEMICAL FAMILY: Triazole fungicide
CHEMICAL NAME (a.i.): 1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone
SYNONYM: Triadimefon
MOLECULAR FORMULA (a.i.): C₁₄H₁₆ClN₃O₂
PRODUCT DESCRIPTION: Brown granular solid with a sharp, musty odor
EPA Registration Number: 264-737-5481
MSDS No.: 371_1
CURRENT MSDS REVISION DATE: 17 March, 2008



MANUFACTURER:
AMVAC CHEMICAL CORPORATION
4100 E. Washington Blvd.
Los Angeles, CA 90023-4406
Ph: 323-264-3910
FAX: 323-268-1028

EMERGENCY TELEPHONE NUMBERS:
MANUFACTURER: 323-264-3910
TRANSPORTATION (24 HOURS)
CHEMTREC: 800-424-9300
OTHER (24 HOURS)
AMVAC: 323-264-3910

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	Concentration, %	CAS No.
BAYLETON (Triadimefon)	50	43121-43-3
Other components	50	
May contain crystalline silica (quartz)	< 1.5	14808-60-7

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)

COMPONENT	HAZARD	OSHA PEL*	ACGIH TLV*
Bayleton® Triadimefon		None	None
Carrier	Dust	5.00 mg/m ³ (respirable)	2.00 mg/m ³ (respirable)
Crystalline silica (quartz)	silicosis	0.10 mg/m ³ (respirable)	0.10 mg/m ³ (respirable)

* Exposure Limits 8 hrs. TWA (ppm)

BAYLETON is a registered trademark of Bayer Cropscience, Inc.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

CAUTION! Harmful if swallowed, inhaled, or absorbed through the skin. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. Avoid contact with skin, eyes or clothing. Avoid breathing dust or spray mist.

KEEP OUT OF REACH OF CHILDREN!

POTENTIAL HEALTH EFFECTS

ROUTE(S) OF ENTRY: Inhalation; Skin Contact; Skin Absorption; Eye Contact

SIGNS OF ACUTE OVEREXPOSURE: Moderate eye irritation may occur from contact with the granular material or spray mixture. The irritation generally clears up within 1 day. Product is a slight dermal irritant. This product may cause dermal sensitization.

SIGNS OF CHRONIC OVEREXPOSURE: No effects from chronic exposure to Bayleton (triadimefon) are expected, based on animal studies. This product may contain up to 1.5% total crystalline silica and therefore may contain a small amount of respirable crystalline silica. Excessive long-term exposure to respirable crystalline silica may cause silicosis, a form of progressive pulmonary fibrosis. Severe and permanent lung damage may result.

CARCINOGENICITY: This product is listed as a Group C - Possible Human Carcinogen - by EPA but is not listed as a carcinogen by NTP or IARC, or regulated as a carcinogen by OSHA. However, it may contain up to 1.5% of crystalline silica (quartz), a substance which is classified by NTP as a Group 2 carcinogen (Substances or groups of substances that may reasonably be anticipated to be carcinogens) and by IARC as a Group I carcinogen (There is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica (quartz) from occupational sources). Crystalline silica is a naturally-occurring mineral component of many sands and clays. Based on the formulation, the respirable portion of any silica found in this product will be small and the chance of excessive inhalation exposure during normal conditions of use is unlikely.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: No specific medical conditions are known which may be aggravated by exposure to the active ingredient in this product. However, pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.

4. FIRST AID MEASURES

EYES: Immediately flush the eyes with copious amounts of clear, cool running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyes and lids with water. Contact a physician immediately. If there will be a delay in getting medical attention, rinse the eyes for at least another 15 minutes.

INHALATION: Remove victim to fresh air. If breathing has ceased, clear the victim's airway and start mouth-to-mouth artificial respiration. If breathing is difficult, give oxygen. Contact a physician immediately. Be sure the contact areas are clean to prevent contamination of the rescuer.

INGESTION: Immediately dilute the swallowed product by giving large quantities of water. Induce vomiting by giving Syrup of Ipecac according to directions on the bottle or by sticking a finger down the throat. Never give anything by mouth to an unconscious or convulsing person. Contact a physician immediately. Be sure the mouth is clean or wear a rubber glove to prevent contamination of the rescuer.

SKIN: Remove contaminated clothing. Immediately flush all affected areas with large amounts of clear water for at least 15 minutes. Do not attempt to neutralize with chemical agents. Wash clothing before reuse. If skin irritation develops, contact a physician immediately.

NOTE TO PHYSICIANS: No specific antidote is available. Treat symptomatically. In case of poisoning, it is also requested that AMVAC Chemical Corporation be notified. Telephone: 1-323-264-3910.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flash Point:	Not applicable
Autoignition Temperature:	Not applicable
Flammable Limits:	
Lower flammable limit:	Not established
Upper flammable limit:	Not established

EXPLOSIVITY:

Mechanical Impact:	Not expected to occur
Static Discharge:	Not expected to occur

HAZARDOUS COMBUSTION PRODUCTS: Combustion products may include hydrogen chloride, nitrogen oxides, carbon oxides, amines, and unknown compounds and vapors.

EXTINGUISHING MEDIA: Water

FIRE FIGHTING INSTRUCTIONS: If involved in a fire, stay upwind, wear self-contained breathing equipment and avoid water runoff.

6. ACCIDENTAL RELEASE MEASURES

GENERAL: Isolate the spill and keep bystanders upwind and away from the spill. Use adequate ventilation appropriate personal protective equipment (See Section 8). Do not walk through the spilled material. Avoid breathing dusts and skin contact. Avoid generating dust (a fine water spray mist, plastic film cover, or floor sweeping compound may be used if necessary).

SMALL SPILL: Carefully sweep up the spilled material and place it in a covered container for reuse or disposal. Scrub the area with detergent and water. Absorb the washwaters and subsequent rinse water with absorbent materials such as clay, Clean-Dri, or kitty litter. Sweep up the absorbent and place in a covered hazardous waste container for proper disposal. Do not allow material to enter streams, sewers, or other waterways.

LARGE SPILL: Dike the spill to prevent contamination of local water sources. Recovery and cleanup is the same as for a small spill.

7. HANDLING AND STORAGE

HANDLING: Wear appropriate personal protective equipment (See Section 8). Wash hands before eating, drinking, chewing gum, or using the toilet. Follow all label instructions.

STORAGE: Store in a cool, dry area designated specifically for pesticides. Product is sensitive to extreme heat and to moisture. Do not store where the 60 day average temperature is 100°F or above. Do not store near any material intended for use or consumption by humans or animals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Maintain exposure levels below the applicable exposure limits through the use of general and local exhaust ventilation.

RESPIRATORY PROTECTION: Under normal handling conditions no respiratory protection is needed. However, if needed to prevent respiratory irritation, wear a NIOSH-approved particulate respirator. Specific use regulations are listed on the label.

SKIN PROTECTION: Use chemical-resistant gloves, long sleeved shirts, trousers, and boots to prevent dermal exposure.

EYE PROTECTION: Safety glasses should always be worn when working with chemicals. Goggles should be used when needed to prevent dust or spray mixture from getting into the eyes.

ADDITIONAL PROTECTIVE MEASURES: Clean water (a safety shower and eyewash) should be available for washing in case of eye or skin contamination. Follow all label instructions. Launder clothing after use. Wash thoroughly after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Solid
APPEARANCE:	Brown granules
ODOR:	Sharp, musty
ODOR THRESHOLD:	Not available
BOILING POINT:	Not applicable
CRYSTALLIZATION POINT:	82.3°C (for Triamefon)
BULK DENSITY:	33-36 lb/cu ft
VAPOR PRESSURE:	1.5×10^{-7} mm Hg @ 20°C (a.i.)
VAPOR DENSITY:	Not applicable
PERCENT VOLATILE BY VOL:	Not applicable
SOLUBILITY IN WATER:	64 mg/L (a.i.)
SOLUBILITY (Other):	Triadimefon (a.i.) is moderately soluble in most organic solvents.
PARTITION COEFFICIENT (O/W):	The partition coefficient for Triamefon(a.i.) is 3.11 (log P)
pH:	7.5 - 8.5
EVAPORATION RATE:	Not applicable

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (Conditions to avoid): This product is stable under normal use conditions.

INCOMPATIBILITY: Strong oxidizing agents, acids, high heat, moisture.

HAZARDOUS DECOMPOSITION PRODUCTS: This product may generate hydrogen chloride, amines, nitrogen oxides, carbon oxides and unknown compounds under fire and other extreme decomposition conditions.

HAZARDOUS POLYMERIZATION: This product will not polymerize.

11. TOXICOLOGICAL INFORMATION

GENERAL: Acute toxicology information provided below has been extrapolated from a similar formulation, BAYLETON 50% WP. The non acute information pertains to the active ingredient, Triadimefon.

INGESTION:	Oral LD ₅₀ (rat):	812/1470 mg/kg (M/F)
INHALATION:	Inhalation LC ₅₀ (rat):	> 3,532 mg/L (M&F, 4 hr, dust)
DERMAL:	Skin LD ₅₀ (rat/rabbit):	> 2000 mg/kg (M&F)
IRRITATION:	Eye irritation (rabbit):	Minimal irritation
	Skin irritation (rabbit):	Slight dermal irritant
SENSITIZATION:	Skin sensitization: (guinea pig)	Not tested. Expected to be a skin sensitizer based on testing of a similar product

11. **TOXICOLOGICAL INFORMATION, cont'd**

TERATOGENICITY: In both rat and rabbit developmental studies there was evidence of developmental effects combined with maternal toxicity at the higher dose levels tested. However, clear no effect levels were established in all studies.

MUTAGENICITY: Numerous in vitro and in vivo mutagenicity studies have been conducted on Triadimefon, all of which were negative.

CARCINOGENICITY: In one rat carcinogenicity study on rats there was a slight increase in the incidence of benign follicular adenomas of the thyroid gland at the highest dose level tested, 1800 ppm. In the mouse study there was an increase in the incidence of benign liver tumors at the highest dose tested, 1800 ppm. No increase in malignant tumors occurred in any study.

REPRODUCTIVE TOXICITY: In reproduction studies in rats there were reproductive effects such as smaller litter sizes, reduced litter weights, and reduced viability and lactation seen at the highest dose level of 1800 ppm. The reproductive NOEL was 30 ppm.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: No information available.

12. **ECOLOGICAL INFORMATION**

GENERAL: Triadimefon has exhibited low toxicity when tested on birds, fish, and animals. As with any pesticide, this product should be used only according to label directions and should be kept out of streams, lakes and other aquatic habitats of concern.

13. **DISPOSAL CONSIDERATIONS**

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed on site by use according to label instructions or at an approved waste disposal facility. If these wastes cannot be disposed by use according to label instructions, contact your nearest state Pesticide or Environmental Control Agency, the Hazardous Waste representative at the nearest EPA regional office or national equivalent to these agencies, for guidance. Open dumping is prohibited.

CONTAINER DISPOSAL: Dispose of empty bags in a sanitary landfill or, if permitted, by incineration. Contact your nearest state Pesticide or Environmental Control Agency, the Hazardous Waste representative at the nearest EPA regional office or national equivalent to these agencies, for guidance.

14. TRANSPORTATION INFORMATION

TECHNICAL SHIPPING NAME:	Triadimefon
FREIGHT CLASS BULK:	Do not ship in bulk
FREIGHT CLASS PACKAGE:	Fungicides, NOI (NMFC 102120)
DOT CLASS:	Non-regulated
UN NUMBER:	None
IMDG CLASS (sea):	Non-regulated
MARINE POLLUTANT:	No
PACKING GROUP:	None
HAZARD LABEL(s):	None
IATA (air):	Non-regulated :
PROPER SHIPPING NAME(s):	Non-regulated
REPORTABLE QUANTITY:	No

TYPICAL PACKAGING

GENERAL DESCRIPTION: 50 lb Kraft lined bags :

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: This product is registered under EPA/FIFRA Regulations. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

SARA TITLE III DATA

Section 311 & 312 Hazard Categories:

Immediate Health Hazard:	Yes
Delayed Health Hazard:	No
Fire Hazard:	No
Reactive Hazard:	No
Sudden Pressure Release Hazard:	No

Section 302 Extremely Hazardous Substances: No components are listed

Section 313 Toxic Chemicals: Triadimefon (CAS # 43121-43-3) - 50%

CERCLA/EHS REPORTABLE QUANTITIES (RQ): None

STATE REGULATIONS:

CALIFORNIA (Proposition 65): This product is known to the State of California to contain substances that may cause cancer or reproductive toxicity: respirable crystalline silica and Triadimefon.

16. OTHER INFORMATION

MSDS STATUS:

Date This Revision: 17 March, 2008

Date Previous Revision: NEW MSDS

Person Responsible for Preparation: Gary A. Braden

Reasons for Revision: New product for AMVAC Chemical.

DISCLAIMER: This information is provided for the limited guidance to the user. While Amvac believes that the information is, as of the date hereof, reliable, it is the user's responsibility to determine the suitability of the information for its purposes. The user is advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional, or variable conditions or circumstances exist (like combinations with other materials), or because of applicable regulations. No express or implied warranty of merchantability or fitness for a particular purpose or otherwise is made hereunder with respect to the information or the product to which the information relates.

ABBREVIATIONS:

ACGIH	-	American Conference of Governmental Industrial Hygienists
CERCLA	-	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	-	Department of Transportation
EPA	-	Environmental Protection Agency
EPCRA	-	Emergency Planning and Community Right-to-Know Act
FIFRA	-	Federal Insecticide, Fungicide, and Rodenticide Act
IARC	-	International Agency for Research on Cancer
IATA	-	International Air Transport Association
IMDG	-	International Maritime Dangerous Goods
NOEL	-	No Observable/observed Effect Level
NTP	-	National Toxicology Program
OSHA	-	Occupational Safety and Health Agency
SARA	-	Superfund Amendments and Reauthorization Act
TSCA	-	Toxic Substances Control Act

This is the last page of this MSDS. There should be 8 pages.