



MATERIAL SAFETY DATA SHEET

BAYER CORPORATION
AGRICULTURE DIVISION
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TRANSPORTATION EMERGENCY:
CALL CHEMTREC: (800) 424-9300
DISTRICT OF COLUMBIA: (202) 483-7616

NON-TRANSPORTATION:
BAYER EMERGENCY PHONE: (800) 414-0244
BAYER INFORMATION PHONE: (800) 842-8020

1. CHEMICAL PRODUCT IDENTIFICATION:	
PRODUCT NAME:	FLINT Fungicide
PRODUCT CODE:	12985
CHEMICAL NAME:	Benzeneacetic acid, (E,E)-alpha-(methoxyimino)-2-(((1-(3-trifluoromethyl)phenyl)ethylidene)amino)oxy)methyl)-,methyl ester
SYNONYMS:	Trifloxystrobin
PRODUCT USE:	Fungicide

2. COMPOSITION/INFORMATION ON INGREDIENTS:		
INGREDIENT NAME		
/CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
***** HAZARDOUS INGREDIENTS *****		
Trifloxystrobin		
141517-21-7	OSHA : Not Established ACGIH: Not Established	50.0%
Surfactant		
Specific chemical identity is withheld as a trade secret.		
	OSHA : Not Established ACGIH: Not Established	% Not Noted
Sodium Sulfate		
	OSHA : Not Established ACGIH: Not Established	% Not Noted
Antifoam Agent		
Specific chemical identity is withheld as a trade secret.		
	OSHA : Not Established ACGIH: Not Established	% Not Noted
Pergopak M		
	OSHA : Not Established ACGIH: Not Established	% Not Noted
Surfactant		
Specific chemical identity is withheld as a trade secret.		
	OSHA : Not Established ACGIH: Not Established	% Not Noted
Wetting Agent		
Specific chemical identity is withheld as a trade secret.		
	OSHA : Not Established ACGIH: Not Established	% Not Noted
Carrier (contains crystalline silica)		
	OSHA : .10 mg/m3 TWA (respirable) ACGIH: .10 mg/m3 TWA (respirable)	% Not Noted

3. HAZARDS IDENTIFICATION:	
EMERGENCY OVERVIEW	CAUTION!
Color: Grey to beige; Form: Solid; Granules; Odor: Weak odor, indeterminate; Harmful if absorbed through skin; Causes eye irritation.	
POTENTIAL HEALTH EFFECTS:	
ROUTE(S) OF ENTRY: Inhalation; Skin Contact; Skin Absorption; Eye Contact	
HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:	
ACUTE EFFECTS OF EXPOSURE: Based on animal studies, this material is essentially non-toxic by the oral route and mildly toxic by the dermal route of exposure. It is mildly irritating to the eyes and slightly irritating to the skin. Toxicology data indicates this product is not sensitizing to the skin; however, the active ingredient is a positive skin sensitizer.	
CHRONIC EFFECTS OF EXPOSURE: This product contains 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 not listed as a carcinogen by NTP or IARC, or regulated as a carcinogen by OSHA. However, it may contain crystalline silica (quartz), a substance which is classified by NTP as a Group 2 carcinogen and by IARC as a Group 1 carcinogen. Crystalline silica is a naturally-occurring mineral component of many sands and clays. Although controversial, the carcinogenic potential of crystalline silica must be considered if it is inhaled under excessive exposure conditions. However, the respirable portion of the silica which may be contained in this product is small, such that excessive inhalation exposure during normal conditions of use is unlikely.	
NTP: Crystalline silica is classified as an NTP Anticipated Human Carcinogen - "Substances or groups of substances that may reasonably be anticipated to be carcinogens."	
IARC: IARC has classified crystalline silica as a Group 1 carcinogen. "There is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica (quartz) from occupational sources."	
OSHA: Not regulated	
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with allergic history or pre-existing dermatitis should use extra care in handling this product. Pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.	

4. FIRST AID MEASURES:
FIRST AID FOR EYES: 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 poison control center or doctor for treatment advice.

FIRST AID MEASURES Continued:

FIRST AID FOR SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

FIRST AID FOR INHALATION: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment information.

FIRST AID FOR INGESTION.: Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by physician or poison control center. Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: There is no specific antidote if this product is ingested. Treat symptomatically. An aqueous suspension of activated charcoal can be administered to absorb remaining toxicant.

5. FIRE FIGHTING MEASURES:

FLASH POINT: Not Applicable

AUTO-IGNITION TEMPERATURE: 320°C

EXTINGUISHING MEDIA: Dry Chemical; Foam; Carbon Dioxide

SPECIAL FIRE FIGHTING PROCEDURES: Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated.

UNUSUAL FIRE / EXPLOSION HAZARDS: None Known

6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES: Wear chemical safety glasses with side shields or chemical goggles, rubber gloves, rubber boots, long-sleeved shirt, long pants, head covering, and use of particulate filter, NIOSH approved per 42 CFR Part 84. Select N or R or P type as appropriate for the oil characteristics of any other air contaminants present. Filter efficiency may range from 95 - 99.97% as appropriate for the size distribution of dusts present. For small spills, sweep up, keeping dust to a minimum, and place in an approved chemical container. Wash the spill area with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up and place in a chemical container. Seal the container and handle in an approved manner. Flush the area with water to remove any residue. Do not allow wash water to contaminate water supplies.

7. HANDLING AND STORAGE:

STORAGE TEMPERATURE: Not Noted

SHELF LIFE: Not Noted

SPECIAL SENSITIVITY: Not Noted

HANDLING/STORAGE PRECAUTIONS: Store the material in well-ventilated, secure area out of the reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco usage, and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

8. PERSONAL PROTECTION:

REQUIRED WORK/HYGIENE PROCEDURES: The following recommendations for exposure control/personal protection are intended for the manufacture, formulation and packaging of the product. For end-use applications consult the product label.

EYE PROTECTION REQUIREMENTS: To avoid eye contact, wear safety glasses with side shields or chemical goggles.

SKIN PROTECTION REQUIREMENTS: To avoid skin contact, wear rubber gloves, rubber boots, long-sleeved shirt, long pants and a head covering.

RESPIRATOR REQUIREMENTS: To avoid breathing dust, use a particulate filter, NIOSH approved per 42 CFR Part 84. Select N or R or P type as appropriate for the oil characteristics of any other air contaminants present. Filter efficiency may range from 95-99.97% as appropriate for the size distribution of dusts present.

ADDITIONAL PROTECTIVE MEASURES: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM: Solid
APPEARANCE: Granules
COLOR: Grey to beige
ODOR: Weak odor, indeterminate
pH: 9-11 (1% suspension in water)
BOILING POINT: Not Applicable
MELTING/FREEZING POINT: 70.9°C
SOLUBILITY IN WATER: Not Available (trifloxystrobin)
SPECIFIC GRAVITY: Not applicable
BULK DENSITY: 0.60 g/cm³ @ 25°C
VAPOR PRESSURE: Not Available (trifloxystrobin)

10. STABILITY AND REACTIVITY:

STABILITY: This is a stable material.
HAZARDOUS POLYMERIZATION: Will not occur.
INCOMPATIBILITIES: Not known
INSTABILITY CONDITIONS: Not known
DECOMPOSITION PRODUCTS: None known

11. TOXICOLOGICAL INFORMATION:

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to trifloxystrobin technical.

ACUTE TOXICITY:

ORAL LD50: Male and Female Rat: >5050 mg/kg
DERMAL LD50: Male and Female Rat: >2000 mg/kg
INHALATION LC50: 4 HR Exposure to Dust: Male and Female Rat: >2.4 mg/L (actual); 1 HR Exposure to Dust (extrapolated from 4 HR): Male and Female Rat: >10.96 mg/L (actual)
EYE EFFECTS: Rabbit: Mild irritation to the cornea and conjunctiva was observed with all irritation clearing within 7 days post-treatment.
SKIN EFFECTS: Rabbit: Slight dermal irritant.

TOXICOLOGICAL INFORMATION Continued:

SENSITIZATION: Guinea Pig: Not a dermal sensitizer.

SUBCHRONIC TOXICITY:

In a 28-day dermal toxicity study in rats, trifloxystrobin was tolerated without local effects at doses up to and including the limit dose of 1000 mg/kg/day. Systemic effects were observed in males at the limit dose and included increased organ weights (liver and kidney).

CHRONIC TOXICITY:

In chronic toxicity studies in mice and dogs, the major primary target organ appears to be the liver following dietary administration of trifloxystrobin. Liver effects were not seen in a chronic toxicity rat study with trifloxystrobin.

CARCINOGENICITY:

Trifloxystrobin did not cause any treatment-related increase in general tumor incidence, any elevated incidence of rare tumors, or shortened time to the development of palpable or rapidly lethal tumors in an 18-month mouse and a 24-month rat study.

MUTAGENICITY:

Trifloxystrobin has been tested for its potential to induce gene mutation and chromosomal changes in 5 different test systems. Taken collectively, these studies demonstrate trifloxystrobin is not genotoxic or mutagenic.

DEVELOPMENTAL TOXICITY:

In developmental toxicity studies using rats and rabbits, trifloxystrobin was not a primary developmental toxicant.

REPRODUCTION:

In a two generation reproduction study using rats, trifloxystrobin was not a primary reproductive toxicant.

12. ECOLOGICAL INFORMATION:

The pesticide is toxic to fish and aquatic invertebrates. Contact Bayer for specific information. In event of a spill emergency, call the Bayer Emergency Response Number at 1.800.414.0244.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME: Fungicide

FREIGHT CLASS BULK: Insecticides or Fungicides; Agricultural, N.O.S.

FREIGHT CLASS PACKAGE: Insecticides or Fungicides; Agricultural, N.O.S.

PRODUCT LABEL: FLINT Fungicide

DOT (DOMESTIC SURFACE)

HAZARD CLASS OR DIVISION: Non-Regulated

IMO / IMDG CODE (OCEAN)

HAZARD CLASS DIVISION NUMBER: Non-Regulated

ICAO / IATA (AIR)

HAZARD CLASS DIVISION NUMBER: Non-Regulated

15. REGULATORY INFORMATION:

OSHA STATUS: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS: This product is exempt from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

CERCLA REPORTABLE QUANTITY: None

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: None

SECTION 311/312 HAZARD CATEGORIES: Immediate Health Hazard; Delay-ed Health Hazard

SECTION 313 TOXIC CHEMICALS: None

RCRA STATUS: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

16. OTHER INFORMATION:

NFPA 704M RATINGS:

Health 1	Flammability 1	Reactivity 0	Other
0=Insignificant	1=Slight	2=Moderate	3=High
			4=Extreme

Bayer's method of hazard communication is comprised of Product Labels and

Material Safety Data Sheets. NFPA ratings are provided by Bayer as a customer service.

REASON FOR ISSUE: Revise Section 11 (Toxicology Data)

PREPARED BY: V. C. Standart

APPROVED BY: D. C. Eberhart

TITLE: Director Product Safety & Stewardship

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