



# MATERIAL SAFETY DATA SHEET

**BAYER HEALTHCARE LLC**  
Animal Health Division  
12707 Shawnee Mission Parkway  
(West 63rd)  
Shawnee, KS 66216-1846

**TRANSPORTATION EMERGENCY**  
CALL CHEMTREC..... : (800) 424-9300  
INTERNATIONAL ..... : (703) 527-3887

**NON-TRANSPORTATION**  
BAYER EMERGENCY PHONE : (800) 422-9874  
BAYER INFORMATION PHONE: (800) 633-3796

## Section 1: Product and Company Identification

**Product Name:** TEMPO 1% Dust Insecticide  
**Material Number:** 8711294  
**Chemical Family:** Pyrethroid Insecticide  
**Chemical Name:** Cyano(4-fluoro-3-phenoxyphenyl)methyl 3-(2,2 -dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate  
**Synonyms:** Cyfluthrin  
**Formula:** C22 H18 Cl2 F N O3

## Section 2: Composition/Information on Ingredients

### HAZARDOUS INGREDIENTS

<u>Ingredient Name/ CAS Number</u>	<u>Exposure Limits</u>	<u>Concentration</u>	
		<u>Min.</u>	<u>Max.</u>
Gypsum CAS# is a trade secret	<b>OSHA (PEL):</b> 5.00 mg/m3 TWA Respirable Fraction 15.00 mg/m3 TWA Total Dust <b>ACGIH (TLV):</b> 10.00 mg/m3 TWA	60%	100%

Quartz (silica, crystalline)  
14808-60-7

**OSHA (PEL):** 3% 7%  
30.00 mg/m3 TWA  
Total Dust (divide PEL  
by %SiO<sub>2</sub> + 2)  
10.00 mg/m3 TWA  
Respirable Fraction  
(divide PEL by %SiO<sub>2</sub>  
+ 2)  
**ACGIH (TLV):**  
0.10 mg/m3 TWA  
Respirable Fraction

CAS# is a trade secret

**OSHA (PEL):** 3% 7%  
15.00 mg/m3 TWA  
Total Dust  
Not Established  
5.00 mg/m3 TWA  
Respirable Fraction  
**ACGIH (TLV):**  
Not Established  
10.00 mg/m3 TWA

Cyfluthrin  
68359-37-5

**OSHA (PEL):** 1% 5%  
Not Established  
**ACGIH (TLV):**  
Not Established

### Section 3: Hazards Identification

#### EMERGENCY OVERVIEW

**CAUTION! Color:** White **Form:** Solid Powder **Odor:** Musty  
May cause mechanical irritation (abrasion). May cause lung damage.

#### POTENTIAL HEALTH EFFECTS

**Route(s) of Entry:** Eye Contact, Inhalation, Skin Contact

#### HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

##### Skin Hazards

**Acute Skin Hazards:** Slightly toxic by skin absorption. May cause slight irritation. Paraesthesia (a tingling or burning sensation on the surface of the skin) may result from skin contact with synthetic pyrethroids and normally subsides without treatment within 24 hours.

##### Eye Hazards

**Acute Eye Hazards:** May cause slight irritation.

##### General Effects of Exposure

**Chronic Effects of Exposure:** No applicable information was found concerning any adverse chronic health effects from overexposure to this product. Excessive exposure to airborne crystalline silica can cause fibrotic lung

damage, with scarring of the lungs with cough and shortness of breath. This is called "Silicosis". This is generally a slowly developing fibrotic disease as symptoms are usually delayed for 10 years or more. Symptoms are dyspnea, chest pain, breathlessness, and cough. The chronic lung scarring developed from the silica dust causes a progressive massive fibrosis. This may lead to increased susceptibility to tuberculosis. Severe and permanent lung damage may result from overexposure to this product.

**Carcinogenic Components:**

**NTP:** Quartz (silica, crystalline): Classified as an NTP Human Carcinogen - "Substances or groups of substances, and medical treatments that are known to be carcinogenic."

**IARC:** Quartz (silica, crystalline): Classified as an IARC Human Carcinogen (Group 1) - "The chemical, group of chemicals, or industrial process is carcinogenic for humans."

**OSHA:** Quartz (silica, crystalline): Not regulated

**Section 4: First Aid Measures**

**First Aid for Eye:** Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Get medical attention if irritation develops or persists.

**First Aid for Skin:** In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Contact a physician if irritation develops.

**First Aid for Ingestion:** Contact a physician or Poison Control Center. If syrup of ipecac is available, administer 1 tablespoonful (15 mL) of syrup of ipecac followed by 1 to 2 glasses of water. If vomiting does not occur within 20 minutes, repeat the dose once. If ingested, do not induce vomiting unless directed to do so by medical personnel.

**Note to Physician:** Published data indicate vitamin E acetate can prevent and/or mitigate symptoms of parasthesia caused by synthetic pyrethroids. In case of human or animal poisoning, please contact the Poison Control Center at (800)938-3578. Please also notify Bayer at (800)422-9874.

**Section 5: Fire Fighting Measures**

**Flash Point:** Not Applicable

**Flammable Limits:**

**Upper Explosion Limit (UEL %):** Not Applicable

**Lower Explosion Limit (LEL %):** Not Applicable

**Extinguishing Media:**

**Suitable:** Water, Dry Chemical

**Special Fire Fighting Procedures:** Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

#### Section 6: Accidental Release Measures

**Spill or Leak Procedures:** Evacuate and keep unnecessary people out of spill area. Use appropriate personal protective equipment during clean up. Wash spill area with soap and water. Wash spill area with water. Do not allow spilled material or wash water to enter sewers, surface waters, or groundwater systems.

#### Section 7: Handling and Storage

**Storage Temperature:**  
**Minimum:** 0 °F  
**Maximum:** 100 °F

**Shelf Life:** Not Established

**Special Sensitivity:** Avoid extreme heat. Avoid contact with moisture/water.

**Handling/Storage Precautions:** Store separate from food products. Store in a dry place in original or waterproof containers. Store in an area designated specifically for pesticides. Avoid contact with eyes and skin.

#### Section 8: Exposure Controls/Personal Protection

##### Personal Protection Equipment

**Eye Protection Requirements:** Chemical safety goggles or glasses.

**Skin Protection Requirements:** Permeation resistant gloves, Permeation resistant clothing

**Ventilation Requirements:** Use local and general exhaust ventilation to control levels of exposure.

**Respirator Requirements:** A NIOSH approved respirator for pesticides can be used to minimize exposure.

**Additional Protective Measures:** Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product. Follow all label instructions. Launder clothing separately after use. Employees should wash their hands and face before eating, drinking, or using tobacco products.

## Section 9: Physical and Chemical Properties

<b>Physical Form:</b>	Solid
<b>Appearance:</b>	Powder
<b>Color:</b>	White
<b>Odor:</b>	Musty
<b>Molecular Weight:</b>	434.3 For the active ingredient.
<b>Boiling Point:</b>	Not Applicable
<b>Melting/Freezing Point:</b>	Not Applicable
<b>Viscosity:</b>	Not Applicable
<b>Solubility in Water:</b>	Insoluble
<b>Specific Gravity:</b>	Not Applicable
<b>Vapor Pressure:</b>	Not Applicable

## Section 10: Stability and Reactivity

<b>Stability:</b>	Stable
<b>Hazardous Polymerization:</b>	Will not occur
<b>Substances to Avoid:</b>	Not established
<b>Conditions to Avoid:</b>	Not established
<b>Decomposition Temperature:</b>	Approximately 500 °C
<b>Decomposition Products:</b>	Not established

## Section 11: Toxicological Information

### Toxicity Data for TEMPO 1% Dust Insecticide

**Toxicity Note:** Data is for a more concentrated product.

**Acute oral toxicity:** LD50 = 3,084 mg/kg bw (Male Rat)

LD50 = 1,733 mg/kg bw (Female Rat)

**Acute dermal toxicity:** LD50 = > 2,000 mg/kg bw (Rabbit)

**Acute inhalation toxicity:** > 1.18 mg/L, 4 hrs, (Rat)

**Eye Irritation:** Slightly irritating (Rabbit)

**Skin Irritation:** Slightly irritating (Rabbit)

**Sensitization:** Non-sensitizer (Guinea pig) Source: Supplier Material Safety Data Sheet (MSDS)

### Toxicity Data for Cyfluthrin

**Acute oral toxicity:** LD50 = 16.2 - 1,189 mg/kg bw (Rat) Oral LD50s vary with dosing vehicle used, however, the EPA has determined an oral LD50 of 590 mg/kg is representative of this product for FIFRA labeling purposes.

<b>Acute dermal toxicity:</b>	LD50 = > 5,000 mg/kg bw (Rat)
<b>Acute inhalation toxicity:</b>	0.47 mg/L, 4 hrs, aerosol (Rat) 0.39 mg/L, 4 hrs, aerosol (Rat) > 1.09 mg/L, 1 hrs, aerosol (Rat)
<b>Eye Irritation:</b>	Slightly irritating (Rabbit)
<b>Skin Irritation:</b>	Non-irritating (Rabbit)
<b>Sensitization:</b>	Non-sensitizer (Guinea pig)
<b>Repeated Dose Toxicity:</b>	In a 3 week dermal toxicity study, cyfluthrin technical was administered to rats for 6 hours/day at dose levels of 100, 340 or 1000 mg/kg. Animals received a total of 17-18 applications in a period of 22-23 days. An additional control and high-dose group were treated and maintained for 14-15 days following treatment so as to ascertain the extent of recovery. Effects observed included reduced feed consumption, red nasal discharge, urine stains, and findings at the dose site (scabbing, crusty, discolored and raised zones). Histologically, epidermal and dermal alterations in treated skin were observed in animals of the mid- and high-dose groups. Similar, but slightly less severe microscopic alterations were also observed in the high-dose recovery group. The overall NOEL was 100 mg/kg. In a 13 week inhalation study, rats were exposed to cyfluthrin at aerosol concentrations of 0.09, 0.71, or 4.51 mg/m <sup>3</sup> for 6 hours/day, 5 days/week. The NOEL was 0.09 mg/m <sup>3</sup> based on reduced body weight gains.
<b>Carcinogenicity:</b>	Cyfluthrin was investigated for carcinogenicity in chronic studies using several different strains of rats and mice. In rats, the maximum level tested was 450. Maximum levels tested in mice were 1400 and 1600 ppm for males and females, respectively. There was no evidence of a carcinogenic potential observed in any of the strains in either species.
<b>Mutagenicity:</b>	No mutagenic effects were determined in various in vivo and in vitro tests.
<b>Developmental Toxicity/Teratogenicity:</b>	In a developmental toxicity study, beta-Cyfluthrin was administered orally to rats during gestation at doses of 3, 10 or 40 mg/kg. At the lethal and maternally toxic dose of 40 mg/kg, there was a decrease in fetal body weights and an increased incidence of skeletal findings. The NOELs for maternal and developmental toxicity were 3 and 10 mg/kg, respectively.
<b>Toxicity to Reproduction/Fertility:</b>	In a reproduction study, cyfluthrin was administered to rats for 3 generations at dietary concentrations of 50, 150 and 450 ppm. Reproductive effects observed at parentally toxic levels included reductions in viability, lactation, litter size, feed consumption, and pup birth weights and body weight gains. Coarse tremors were observed in some offspring at 450 ppm. The NOEL for both parental and reproductive effects was 50 ppm. In another reproduction study, cyfluthrin was administered to rats for 2

generations at dietary concentrations of 50, 125 or 400 ppm. Coarse tremors occurring in conjunction with parental toxicity were observed in the offspring in the mid- and high-dose groups. Based on this finding, the neonatal NOEL was 50 ppm. The NOELs for parental and reproductive toxicity were 50 and 400 ppm, respectively.

**Neurotoxicity:**

Numerous neurotoxicity studies have been conducted on cyfluthrin. oral gavage studies using hens, have indicated that at extremely high dose levels (5000 mg/kg), minimal nerve damage occurs. When rats were administered cyfluthrin daily at oral doses of 40 to 80 mg/kg for 14 days, minimal nerve effects were seen. These effects were completely reversible within a 3 month recovery period. In dermal and inhalation studies which are relevant to field exposure, there was no evidence of delayed neurotoxicity in hens. In special investigative studies, litters of neonatal mice (10 days of age) and their mothers were exposed to cyfluthrin via inhalation (whole body exposure). Mice were exposed to aerosol concentrations of 5, 15, or 50 mg/m<sup>3</sup> for 6.3 hours/day for 7 successive days. Motor activity was measured in the offspring at 4 months of age (approximately 3.5 months post-exposure). At 50 mg/m<sup>3</sup>, all of the offsprings died or were sacrificed in a moribund state following the first exposure. Mortalities were not observed at any of the other levels. Clinical symptoms were observed immediately after exposure in young mice at 15 mg/m<sup>3</sup>, and included decreased motility, temporary scratching, and tonic convulsions. There was an increase in motor activity in mice at 15 mg/m<sup>3</sup>. Histopathological investigations did not reveal any treatment-related findings in mice at the age of 4 months.

**Section 12: Ecological Information**

**Ecological Data for TEMPO 1% Dust Insecticide**

**Ecological Note:** No data available for this product.

**Ecological Data for Cyfluthrin**

**Ecological Note:** No data available for this component.

**Section 13: Disposal Considerations**

**Waste Disposal Method:** Follow container label instructions for disposal of wastes generated during use in compliance with the FIFRA product label. In other situations, bury in an EPA approved landfill or burn in an incinerator approved for pesticide destruction. Do not reuse container.

**Section 14: Transportation Information**

**Technical shipping name:** Pesticide

**Freight Class**

**Bulk:** Insecticides, N.O.I. (NMFC 102120)  
**Package:** Insecticides, N.O.I. (NMFC 102120)

**Domestic Surface Transportation (DOT)**

**Hazard Class or Division:** Non-Regulated

**Marine Transportation (IMO / IMDG)**

**Hazard Class Division Number:** Non-Regulated

**Air Transportation (ICAO / IATA)**

**Hazard Class Division Number:** Non-Regulated

**Section 15: Regulatory Information**

**United States Federal Regulations**

**OSHA Hazcom Standard Rating:** Hazardous

Hazardous

**TSCA Inventory List:** This product is excluded from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

**FIFRA Status:** This product is registered with the EPA under FIFRA.

**CERCLA Hazardous Substance:**

Component(s)  
None

Reportable Quantity

**SARA Title III**

**SARA Section 302 Extremely Hazardous Substances:**

Component(s)/  
CAS Number  
None

Concentration  
Min.      Max.

**SARA Section 311/312 Hazard Categories:** Immediate Health Hazard, Delayed Health Hazard

**SARA Section 313 Toxic Chemicals:**

Component(s)/  
CAS Number  
Cyfluthrin  
68359-37-5

Reporting  
Threshold  
1.0 %

Concentration  
Min.      Max.

**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)

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

**State Right-to-Know Information**

<b><u>Component(s)/ CAS Number</u></b>	<b><u>State Code</u></b>	<b><u>Concentration</u></b>	
		<b><u>Min.</u></b>	<b><u>Max.</u></b>

State Code Translation Table

**Section 16: Other Information**

**NFPA 704M Rating**

<b>Health</b>	2
<b>Flammability</b>	1
<b>Reactivity</b>	0
<b>Other</b>	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

BAYER HEALTHCARE LLC's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by BAYER HEALTHCARE LLC as a customer service.

Contact: John Sheehan  
Phone: (913) 268-2570  
MSDS Number: R26125  
Version Date: 08/28/2008  
MSDS Version: 1.28

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