



Material Safety Data Sheet

TEMPO® 20 WP INSECTICIDE

MSDS Number: 102000007122

MSDS Version 2.0

Revision Date: 03/15/2005

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name TEMPO® 20 WP INSECTICIDE
MSDS Number 102000007122
EPA Registration No. 432-1302
Product Use Broad-spectrum insecticide for the control of crawling, flying and other insect pests for both indoor and outdoor uses.

Bayer Environmental Science
 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 1-800-331-2867

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Cyfluthrin	68359-37-5	20.00
Quartz (Silica, Crystalline)	14808-60-7	4.00

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. Irritating to eyes. Keep out of reach of children and domestic animals. Avoid breathing dust or spray mist.

Physical State solid powder

Odor aromatic

Appearance tan

Routes of Exposure Inhalation, Skin Absorption, Eye contact, Skin contact

Immediate Effects

Eye Wear protective eyewear. Do not get in eyes. Mild eye irritation

Skin Mild skin irritant. May cause a transient, localized paresthesia, characterized by tingling, burning or numbness sensation in some individuals.



Material Safety Data Sheet

MSDS Number: 102000007122
MSDS Version 2.0

TEMPO® 20 WP INSECTICIDE

Ingestion	Harmful if swallowed.
Inhalation	irritation of mucous membranes Avoid breathing dust or spray mist. Mist may cause irritation involving the nose, throat and upper respiratory tract during the end use of the product such as during a spray application.
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 excessive inhalation exposure during anticipated conditions of use is unlikely.
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.

SECTION 4. FIRST AID MEASURES

General	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 poison control center or doctor for treatment advice.
Skin	Take off all contaminated clothing immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.
Ingestion	Call a 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 directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious or convulsing 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 poison control center or doctor for treatment advice.
Notes to Physician Treatment	Treat symptomatically. There is no specific antidote.



Material Safety Data Sheet
TEMPO® 20 WP INSECTICIDE

MSDS Number: 102000007122
 MSDS Version 2.0

SECTION 5. FIRE FIGHTING MEASURES

Flash Point	not applicable
Autoignition Temperature	Not combustible.
Suitable Extinguishing Media	water, dry chemical
Fire Fighting Instructions	Stay upwind if possible. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Methods for Cleaning Up	Isolate hazard area. Wear appropriate gear for the situation. See Personal Protection information in Section 8. Sweep up and shovel into suitable containers for disposal. Do not allow spilt product to enter soil or waterways Do not enter confined spaces unless adequately ventilated. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Decontaminate tools and equipment following cleanup.
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SECTION 7. HANDLING AND STORAGE

Handling Procedures	Wash with soap and water after handling. Avoid breathing dust.
Storing Procedures	Keep away from living quarters. Keep away from open flames, hot surfaces and sources of ignition. Store in an area that is away from food, feedstuffs, fertilizers and seed, away from the home or home garden. Store in an area that is dry and well-ventilated.
Min/Max Storage Temperatures	60 day average not to exceed 120°F.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls	Ensure adequate ventilation, especially in confined areas. Provide exhaust ventilation. Control airborne concentrations below the exposure guidelines.
Eye/Face Protection	Chemical resistant goggles must be worn.
Hand Protection	chemical resistant gloves



Material Safety Data Sheet
TEMPO® 20 WP INSECTICIDE

MSDS Number: 102000007122
 MSDS Version 2.0

Body Protection Long-sleeved shirt and long pants
 Shoes plus socks

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.

Exposure Limits	14808-60-7	ACGIH	TWA	0.05 mg/m3
Quartz (Silica, Crystalline)		Form of Exposure	Respirable fraction.	
		ACGIH NIC	TWA	0.025 mg/m3
		Form of Exposure	Respirable fraction.	
		NIOSH	REL	0.05 mg/m3
		Form of Exposure	Respirable dust.	
		OSHA Z1A	TWA	0.1 mg/m3
		Form of Exposure	Respirable dust.	
		US CA OEL	TWA PEL	0.1 mg/m3
		Form of Exposure	Respirable dust.	
		US CA OEL	TWA PEL	0.3 mg/m3
		Form of Exposure	Total dust.	
		OSHA Z1	PEL	15 mg/m3
		Form of Exposure	Total dust.	
		OSHA Z1	PEL	5 mg/m3
		Form of Exposure	Respirable fraction.	
		Z3	TWA	2.4 millions of particles per cubic foot of air
		Form of Exposure	Respirable.	
		Remarks	The value is calculated from a specified equation using a value of 100%. Lower values of % will give higher exposure limits. See regulation for specific equation.	
		Z3	TWA	0.1 mg/m3
		Form of Exposure	Respirable.	
		Remarks	The value is calculated from a specified equation using a value of 100%. Lower values of % will give higher exposure limits. See regulation for specific equation.	
		Z3	TWA	0.3 mg/m3
		Form of Exposure	Total dust.	
		Remarks	The value is calculated from a specified equation using a value of 100%. Lower values	



Material Safety Data Sheet
TEMPO® 20 WP INSECTICIDE

MSDS Number: 102000007122
 MSDS Version 2.0

of % will give higher exposure limits. See regulation for specific equation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	tan
Physical State	solid powder
Odor	aromatic
pH	9.2 (as aqueous solution)
Vapor Pressure	< 0.0000001 hPa at 20 °C
Bulk Density	20 - 26 lbs / cu-ft
Water Solubility	no data available

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Exposure to extreme heat. Exposure to moisture.
Incompatibility	methanol alkali metals alkaline earth metals light and/or alkaline metals bases
Hazardous Reactions	Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the active ingredient, cyfluthrin.

Acute Oral Toxicity	male rat: LD50: 3,084 mg/kg female rat: LD50: 1,733 mg/kg
Acute Dermal Toxicity	male/female rabbit: LD50: > 2,000 mg/kg



Material Safety Data Sheet
TEMPO® 20 WP INSECTICIDE

MSDS Number: 102000007122
 MSDS Version 2.0

Acute Inhalation Toxicity male/female rat: LC50: 4-hr exposure to dust: > 1.18 mg/l
 Maximum attainable concentration.
 (actual)

male/female rat: 1-hr exposure to dust (extrapolated from 4-hr LC50): > 4.72
 mg/l
 (actual)

Skin Irritation rabbit: slight irritation

Eye Irritation rabbit: Mild eye irritation

Sensitization guinea pig: Non-sensitizing

Subchronic Toxicity In a 3-week dermal toxicity study in rats treated with cyfluthrin, effects observed included clinical signs of toxicity, as well as, topical and microscopic alterations in the treated tissue at the dose site.

In a 13-week inhalation study in rats exposed to cyfluthrin, effects included reduced body weight gains and non-specific behavioral disturbances at the mid- and high concentrations (0.71 and 4.5 mg/cu-m).

Chronic Toxicity In chronic dietary studies in rats treated with cyfluthrin, compound-related effects included decreased body weight gains and slight changes in clinical chemistries.

In chronic dietary studies in dogs treated with cyfluthrin, compound-related effects were observed at the higher concentrations (>360 ppm). These effects included an increased incidence of vomiting, decreased body weights, soft feces and clinical neurological symptoms.

Assessment Carcinogenicity

In oncongenicity studies in rats and mice, cyfluthrin was not considered carcinogenic in either species.

ACGIH

Quartz (Silica, Crystalline)	14808-60-7	Group A2
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NTP

Quartz (Silica, Crystalline)	14808-60-7
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IARC

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

None.

Reproductive & Developmental Toxicity

REPRODUCTIVE TOXICOLOGY: In reproduction studies in rats treated with cyfluthrin, reproductive effects occurred in conjunction with parental toxicity. These effects included reductions in viability, lactation, litter size, feed consumption and body weights. In addition, coarse tremors were observed in offspring at higher concentrations (ca. 125 ppm).

DEVELOPMENTAL TOXICITY: In developmental toxicology studies in rats treated with cyfluthrin, there were no embryotoxic or teratogenic effects via the



Material Safety Data Sheet
TEMPO® 20 WP INSECTICIDE

MSDS Number: 102000007122
MSDS Version 2.0

oral route of exposure. When rats were exposed to cyfluthrin via inhalation, embryotoxic effects occurred in conjunction with maternal toxicity. In rabbits treated orally with cyfluthrin, there was an increased incidence of post-implantation losses at maternally toxic dose levels.

Neurotoxicity

In neurotoxicity studies with cyfluthrin, minimal nerve damage occurred in rats and hens treated by oral gavage. In dermal and inhalation studies, which are more relevant to field exposure, there was no evidence of delayed neurotoxicity in hens treated with cyfluthrin.

In a special investigative inhalation study with cyfluthrin in neonatal mice, effects observed included clinical signs of toxicity, mortality and neurobehavioral effects indicative of treatment-related hyperactivity. There were no correlating morphological changes in neural tissues in mice at 4 months of age.

Mutagenicity

Numerous in vitro and in vivo mutagenicity studies have been conducted on cyfluthrin, all of which are negative.

SECTION 12. ECOLOGICAL INFORMATION

**Environmental
Precautions**

This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark outside of a treated rice field. Drift and runoff from treated areas may be hazardous to fish/aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product only as specified on the label.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply it or allow it to drift to crops or weeds on which bees are actively foraging.



Material Safety Data Sheet
TEMPO® 20 WP INSECTICIDE

MSDS Number: 102000007122
 MSDS Version 2.0

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance Pesticide Disposal: Do not contaminate water, food, or feed by disposal. Pesticide, spray mixture or rinse water that cannot be used according to label instructions maybe disposed of at an approved waste facility. Pesticide wastes are acutely toxic hazardous. Keep away from food, drink and animal feeding stuffs. Do not re-use empty containers.

Container Disposal Packaging that cannot be cleaned should be disposed of as product waste. Uncontrolled disposal or recycling of this packaging is not permitted and can be dangerous.

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
 Not regulated for Domestic Surface Transportation

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 432-1302

US Federal Regulations

TSCA list

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

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Cyfluthrin 68359-37-5 1.0%

US States Regulatory Reporting

CA Prop65

This product contains a chemical known to the State of California to cause cancer.

Quartz (Silica, Crystalline) 14808-60-7

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

Cyfluthrin	68359-37-5	NJ
Quartz (Silica, Crystalline)	14808-60-7	IL, MA, MN, RI

Canadian Regulations

Canadian Domestic Substance List

Quartz (Silica, Crystalline) 14808-60-7



Material Safety Data Sheet
TEMPO® 20 WP INSECTICIDE

MSDS Number: 102000007122
MSDS Version 2.0

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)

Cyfluthrin	68359-37-5
Quartz (Silica, Crystalline)	14808-60-7

SECTION 16. OTHER INFORMATION

NFPA

Health - 2 Flammability - 1 Reactivity - 1 Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Renumber MSDS to new system.

Revision Date: 03/15/2005

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