

**Syngenta Crop Protection, Inc.**  
**Post Office Box 18300**  
**Greensboro, NC 27419**

**In Case of Emergency, Call**  
**1-800-888-8372**

**1. PRODUCT IDENTIFICATION**

Product Name: **FLORAZOL** Product No.: A13185A  
 EPA Signal Word: Caution  
 Active Ingredient(%): Paclobutrazol Technical (00.4%) CAS No.: 76738-62-0  
 Chemical Name: (R\*,R\*)-beta-[(4-chlorophenyl)methyl]-alpha(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol  
 Chemical Class: A triazole plant growth regulator.  
 EPA Registration Number(s): 100-996-72112 **Section(s) Revised: 1, 2, 8**

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Propylene Glycol	Not Established	Not Established	50 ppm TWA ****	No
Paclobutrazol Technical (00.4%)	Not Established	Not Established	5.0 mg/m <sup>3</sup> TWA ***	Not Available

\*\*\* Syngenta Occupational Exposure Limit (OEL)  
 \*\*\*\* Recommended by AIHA (American Industrial Hygiene Association)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.  
 Syngenta Hazard Category: A

**3. HAZARDS IDENTIFICATION**
Symptoms of Acute Exposure

Low hazard for usual industrial or commercial handling.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Milky white liquid  
 Odor: Not determined

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

**4. FIRST AID MEASURES**

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.  
 Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses,

if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

**Skin Contact:** If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

**Inhalation:** If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

#### Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

#### Medical Condition Likely to be Aggravated by Exposure

None known.

## **5. FIRE FIGHTING MEASURES**

### Fire and Explosion

Flash Point (Test Method): > 200°F (Setaflash CC)  
Flammable Limits (% in Air): Lower: % Not Applicable Upper: % Not Applicable  
Autoignition Temperature: Not Available  
Flammability: Not Applicable

### Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

### In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. 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. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

## **6. ACCIDENTAL RELEASE MEASURES**

### In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

## **7. HANDLING AND STORAGE**

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.**

**FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.**

**Ingestion:** Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

**Eye Contact:** Where eye contact is likely, use chemical splash goggles.

**Skin Contact:** Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

**Inhalation:** A respirator is not normally required when handling this substance. In case of emergency spills, use a

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Milky white liquid
Odor:	Not determined
Melting Point:	Not Applicable
Boiling Point:	212°F
Specific Gravity/Density:	1.09 g/ml
pH:	7.7

### Solubility in H<sub>2</sub>O

Paclobutrazol Technical: 26 mg/l @ 68°F (20°C)

### Vapor Pressure

Paclobutrazol Technical: 7.5 x 10<sup>(-9)</sup> mmHg @ 68°F (20°C)

## 10. STABILITY AND REACTIVITY

Stability:	Stable under normal use and storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	None known.
Materials to Avoid:	Oxidizing agents.
Hazardous Decomposition Products:	Can decompose at high temperatures forming toxic gases.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:	<u>Practically Non-Toxic</u>	
	Oral (LD50 Rat) :	5,346 mg/kg body weight
Dermal:	<u>Not Available</u>	
	Dermal (LD50 Rat) :	See "Other Toxicity Information", Sec. 11
Inhalation:	<u>Not Available</u>	
	Inhalation (LC50 Rat) :	See "Other Toxicity Information", Sec. 11
Eye Contact:	Non-Irritating (Rabbit)	
Skin Contact:	Non-Irritating (Rabbit)	
Skin Sensitization:	Not a skin sensitizer in animal tests.	

### Reproductive/Developmental Effects

Paclobutrazol Technical:	Dose-related increase in minor skeletal defects and evidence of fetotoxicity in rat studies (urogenital defects). No adverse effects seen on reproductive parameters or reproductive organs in a 2-generation rat study. Liver effects were noted at the highest dose level in the FO females and male and female offspring.
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### Chronic/Subchronic Toxicity Studies

Paclobutrazol Technical:	Evidence of liver toxicity in repeat dose rodent studies at high dose levels. (1250 ppm, 90-day and 2-year tests). No effects noted in rabbit studies. Non-genotoxic in a range of in vitro and in vivo short-term tests. No indication that paclobutrazol is an endocrine disruptor.
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### Carcinogenicity

Paclobutrazol Technical:	No evidence of carcinogenicity in 2-year rodent studies.
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### Other Toxicity Information

Systemically toxic concentrations of this product will probably not be absorbed through human skin. No toxic effects are known to be associated with inhalation of dust from this material.

Limited toxicity data are available on this specific product. This health hazard assessment is based on the results of screening tests.

#### Toxicity of Other Components

##### Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

#### Target Organs

##### Active Ingredients

Paclobutrazol Technical: Liver

##### Inert Ingredients

Propylene Glycol: CNS, skin, eye, kidney, liver

## 12. ECOLOGICAL INFORMATION

#### Summary of Effects

Paclobutrazol Technical:

Practically non-toxic to birds and bees. Slightly toxic to fish and invertebrates.

#### Eco-Acute Toxicity

Paclobutrazol Technical: Bees LC50/EC50 > 50 ug/bee  
Invertebrates (Water Flea) LC50/EC50 33.2 ppm  
Fish (Trout) LC50/EC50 27.8 ppm  
Fish (Bluegill) LC50/EC50 23.6 ppm  
Birds (8-day dietary - Bobwhite Quail) LC50/EC50 > 20,000 ppm  
Birds (8-day dietary - Mallard Duck) LC50/EC50 > 20,000 ppm

#### Eco-Chronic Toxicity

Paclobutrazol Technical: Not Available

#### Environmental Fate

Paclobutrazol Technical:

No data available for the formulation. The information presented here is for the active ingredient, paclobutrazol. Not persistent in soil. Stable in water. Mixes in water (after 24 h).

## 13. DISPOSAL CONSIDERATIONS

#### Disposal

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

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

## 14. TRANSPORT INFORMATION

#### DOT Classification

Ground Transport - NAFTA  
Not regulated.

#### B/L Freight Classification

Plant Growth Inhibitor, Modifier, or Regulator

#### Comments

None.

**15. REGULATORY INFORMATION**

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Not Applicable

Section 313 Toxic Chemicals: Not Applicable

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

None

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

**16. OTHER INFORMATION**

NFPA Hazard Ratings

Health: 1  
Flammability: 1  
Instability: 0

HMIS Hazard Ratings

Health: 1  
Flammability: 1  
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 11/25/1998

Revision Date: 08/10/2004

Replaces: 10/03/2003

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

RSVP# : SCP-955-0367C

End of MSDS