



P.O. Box 34645 • Omaha, NE 68134 • Toll-Free: 800-698-4641 • Phone: 402-339-4459 • Fax: 402-339-5011 • www.ArborSystems.com

1. PRODUCT IDENTIFICATION

Product Name: Mastiff® PGR

EPA Reg. No.: 67690-34-69117

EPA Est: 69117-NE-1

EPA Signal Word: Warning

Chemical Class: Tree Growth Regulator

2. COMPOSITION/INFORMATION ON INGREDIENTS

Active Ingredient (%): Flurprimidol 48.1%

α -(1-Methylethyl)- α -[4-(trifluoromethoxy)phenyl]-5-pyrimidinemethanol

Other ingredients, total: 51.9%

CAS No.: 056425-91-3

3. HAZARDS IDENTIFICATION

Emergency Overview: Hazardous chemical

Clear, yellow liquid with slight aromatic odor.

- May cause slight eye irritation and/or corneal injury.
- Prolonged exposure may cause slight skin irritation.
- Slightly toxic to aquatic organisms on an acute basis.
- Will emit toxic vapors if involved in fire.

4. FIRST AID MEASURES

Have the product container, label, or Material Safety Data Sheet with you when calling a poison control center or doctor, or going for treatment.

Ingestion: Immediately call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

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.

Skin: Take off contaminated clothing. Immediately rinse skin with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation: Remove to fresh air if effects occur. Call a poison control center or doctor for treatment advice.

Notes to Physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

Flash Point: 140°F

Method Used: ASTM, D93

Flammable Limits:

LFL: 0.1195 oz/cu. ft.

UFL: Not applicable

Autoignition Temperature: 442.5 +/- 2.5°C

Extinguishing Media: Product is a water-based suspension and will not burn. If product is involved in a fire and the water evaporates, use a water fog, CO₂, dry chemical or foam as extinguishing methods.

Fire and Explosion Hazards: This product will not burn until a sufficient amount of water has evaporated. At this point, the product will exhibit the flammability characteristics of the organic portion of this formulation. Keep unnecessary people away; isolate the hazard area and deny unnecessary entry. Highly toxic fumes are released in fire situations.

Firefighting Equipment: Wear positive-pressure, self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Action to Take for Spills: Contain spill, then soak up with absorbent material. Sweep up material and dispose as waste in a suitable container. Prevent runoff.

7. HANDLING AND STORAGE

Precautions to be Taken in Handling and Storage: Keep out of reach of children. Harmful if swallowed, absorbed through the skin, or inhaled. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Wash exposed clothing before reuse. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Store in original container.

Avoid freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

Exposure Guidelines:

Flurprimidol: Manufacturer's Industrial Hygiene Guide is 5 mg/M³.

Engineering Controls: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

Recommendations for Manufacturing, Commercial Blending, and Packaging Workers:

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use a NIOSH approved air-purifying respirator. In dusty atmospheres, use a NIOSH approved dust respirator.

Skin Protection: When prolonged or frequently repeated contact could occur, use chemically protective clothing resistant to this material. Selection of specific items such as faceshield, gloves, boots, apron, or full-body suit will depend on operation.

Use gloves impervious to this material.

Eye/Face Protection: Use chemical goggles.

Applicators and All Other Handlers: Refer to the product label for personal protective clothing and equipment.



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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear yellow liquid

Odor: Slight aromatic odor

Boiling Point: Not determined

Vapor Pressure: Not determined

Vapor Density: Not determined

Solubility in Water: 120 to 140 mg/L

Specific Gravity (@20°C): 1.142 g/ml

pH (1% w/w): 4.9 – 8.9

Melting Point: 201.2 to 204.8°F, 94 to 96°C

10. STABILITY AND REACTIVITY

Stability: (Conditions to avoid) Do not store after dilution with a recommended alcohol.

Hazardous Decomposition Products: (Specific materials to avoid)
None known.

Hazardous Polymerization: Will emit toxic vapors as it burns.

Solubility in Water: Not known to occur.

11. TOXICOLOGICAL INFORMATION

Potential Health Effects: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

Eyes: May cause moderate eye irritation with corneal injury, which may be slow to heal.

Skin: Prolonged or repeated contact may cause skin irritation, but is unlikely to result in absorption of harmful amounts. However, repeated skin exposure to large quantities may result in absorption of harmful amounts. The dermal LD₅₀ has not been determined. For the active ingredient, the LD₅₀ for skin absorption in rabbits is >5000 mg/kg.

Ingestion: Low toxicity if ingested. Small amounts ingested incidental to normal handling operations are not likely to cause injury; however, ingesting larger amounts may cause injury. May cause central nervous system effects. Single dose oral LD₅₀ has not been determined. For the active ingredient, the oral LD₅₀ for male rats is 900 mg/kg and for female rats is 700 mg/kg.

Inhalation: Excessive exposure may cause irritation to upper respiratory tract (nose and throat). May cause central nervous system effects. For the active ingredient, the LC₅₀ for rats is >5 mg/L for 4 hours.

Systemic (Other Target Organ) Effects: Based on the available data, repeated exposures to small amounts are not anticipated to cause significant adverse effects.

Cancer Information: Flurprimidol did not cause cancer in laboratory animals.

Teratology (Birth Defects): Contains components which did not cause birth defects; however, in laboratory animals, other toxic effects to the fetus have been seen.

Reproductive Effects: In laboratory animal studies on Flurprimidol, effects on reproduction were seen only at doses that produced significant toxicity to the parent animals.

Mutagenicity: For Flurprimidol, animal mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION

Environmental Data: Do not apply directly to water bodies (lakes, rivers, streams) or wetlands. Do not contaminate water by cleaning of equipment or disposal of wastes.)

13. DISPOSAL CONSIDERATIONS

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in a tightly closed container in a cool, dry place.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Completely empty pack into application equipment, then dispose of empty pack in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning; if burned, stay out of smoke.

14. TRANSPORT INFORMATION

This product is shipped in inner packaging not over 4 L (1.0 Gallon) each and is therefore shipped under the "Limited quantities of Division 6.1 materials" exception, 49 CFR 173.153(b).

15. REGULATORY INFORMATION

U.S. REGULATIONS

SARA 313 Information: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

Sara Hazard Category: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An Immediate Health Hazard

TSCA Status: All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

State Right-to-Know: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

Chemical Description	CAS No.	List
Proprietary ingredient	Proprietary	NJ1 NJ2 NJ3 PA1 PA3
Proprietary ingredient	Proprietary	NJ1 NJ3 PA1

NJ1=New Jersey Special Health Hazard Substance (present at greater than or equal to 0.1%).

NJ2=New Jersey Environmental Hazardous Substance (present at greater than or equal to 1.0%).

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).

PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

OSHA Hazard Communications Standard: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.



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National Fire Protection Associations (NFPA) Ratings:

Category	Rating
Health	2
Flammability	2
Reactivity	0

Rating Key

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Extreme

Comprehensive Environmental Response Compensation and Liability Act (CERCLA, or SUPERFUND):

This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA which may require reporting of releases:

Chemical Name	CAS No.	RQ	% in Product
Proprietary ingredient	Proprietary	1000	0.3%
Proprietary ingredient	Proprietary	5000	0.3%

16. OTHER INFORMATION

Revision: 12/09

Supersedes: 02/06, 05/08 and 11/08 versions

*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. It is the responsibility of the user to comply with all laws and procedures applicable to the safe handling, storage, and use of this product and to determine the suitability of the product for its intended use. **IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.***

Mastiff® is a registered trademark of ArborSystems.