1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name: Avast!™

HAZARD CLASSIFICATION (0-minimal, 1-slight, 2-moderate, 3-serious, 4-severe)

NFPA: HEALTH-1 FIRE-0 REACTIVITY-0
HMIS: HEALTH-1 FIRE-0 REACTIVITY-0

MANUFACTURER NAME AND ADDRESS

Griffin L.L.C.	Griffin (Europe) S.A.	Griffin FE (Malaysia) S/B
2509 Rocky Ford Road	c/o Minervastraat 8	P.O. Box 6506
P.O. Box 1847	B-1930 Zaventem	47300 KG Tunku
Valdosta, GA 31603-1847	Belgium	Petaling Jaya
		Malaysia

EMERGENCY TELEPHONE NUMBERS

Griffin L.L.C. (USA):	(+1) (800) 237 1854
Griffin (Europe) S.A.:	(+32)-2-720 6644
Griffin FE (Malaysia) S/B:	(+60)-3-757 4773
Prosar:	(+1) (888) 324-7598
Chemtrec:	(+1) (800) 424 9300

2. COMPOSITION/ INFORMATION ON INGREDIENTS

Component Name	% by Wt.	CAS#
1-Methyl-3-phenyl-5-[3-(trifluoro-methyl) phenyl]-4(1H)- pyridinone (Fluridone)	41.7	59756-60-4
Inert Ingredients	58.3	

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

May irritate eyes, nose, throat, and skin. May be harmful if inhaled or swallowed.

POTENTIAL HEALTH EFFECTS

Eye Irritation:	May cause slight temporary eye irritation. Corneal injury is unlikely.
Skin Irritation:	Prolonged exposure may cause slight skin irritation. Did not cause allergic skin reactions when tested in guinea pigs.

3. HAZARDS IDENTIFICATION (con't)

Skin Absorption:	A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.
Ingestion:	Single dose oral toxicity is low. LD_{50} > 5000mg/kg.
Inhalation:	At room temperature, vapors are minimal due to the physical properties. A single exposure is not likely to be hazardous.
Systemic (Other Target Organ) Effects:	In chronic toxicity studies in animals, fluridone has been shown to cause liver and kidney effects.
Cancer Information:	The components did not cause cancer in long-term animal studies.
Teratology (Birth Defects):	In animal studies this product did not cause birth defects. Other fetal effects occurred only at doses toxic to the mother.
Mutagenicity (Effects on Genetic Material):	Results of mutagenicity tests in animals have been negative. Results of a battery of in-vito mutagenicity tests, except for one, have also been negative. Based on these results and the lack of carcinogenic response in long-term studies, fluridone is not considered to be mutagenic.

4. FIRST AID MEASURES

Inhalation:	Remove victim to fresh air. If not breathing, give artificial respiration preferably mouth-to-mouth. Get medical attention.
Eye Contact:	Hold eyelids open and flush with water for 15-20 minutes until no evidence of chemical remains. Get medical attention if irritation persists.
Skin Contact:	Remove contaminated clothing and shoes. Wash with plenty of soap and water for 15 - 20 minutes until no evidence of chemical remains. Get medical attention if irritation persists.
Ingestion:	If swallowed, call a physician or Poison Control Center. If victim is fully conscious, give one or two glasses of water, and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.
Note to Physician:	There is no specific antidote. Use supportive care. Treatment is based on the judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

Flash Point & Method:	>200º F (93.3º C) / SCC
Flammable Limits:	Not applicable
Autoignition Temperature:	Not applicable

FIRE FIGHTING HAZARDS & PROCEDURES

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 hazard area and deny unnecessary entry. Highly toxic fumes are released in fire situations.
Extinguishing Media:	Avast! is a water-based suspension and will not burn. If product is involved in a fire and water has evaporated, use water fog, carbon dioxide, dry chemical, or foam.
Fire Fighting Equipment/ Instructions:	Keep personnel removed and upwind of fire. Wear positive-pressure, self-contained breathing apparatus. Wear full protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures:	Use absorbent material to contain and clean up small spills and dispose as waste. Large spills should be reported to CHEMTREC for assistance. Prevent runoff.

7. HANDLING AND STORAGE

General Information:	Keep out of the reach of children. Material is harmful if swallowed, absorbed through the skin, or if inhaled. Avoid breathing spray mist or contact with skin, eyes, or clothing.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

PESTICIDE APPLICATORS & WORKERS

These workers must refer to the Product Label and Directions For Use attached to the product.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION (con't)

MANUFACTURING, COMMERCIAL BLENDING, & PACKAGING WORKERS

Ventilation:	Provide general or local exhaust ventilation to control airborne levels below the exposure guidelines.
Respiratory Protection:	Atmospheric levels should be maintained below the exposure guideline. If respiratory irritation is experienced, use an approved air-purifying respirator.
Eye Protection:	Wear protective eyewear to prevent contact with this substance.
Protective Clothing:	For brief contact, no precautions other than clean body covering clothing should be needed. Use chemically-resistant gloves when prolonged or frequently repeated contact could occur. Wash thoroughly with soap and water after handling. Wash exposed clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

pH (1% dispersion):	6.8
Boiling Point:	212º F, 100º C
Vapor Pressure:	2.3 mm Hg @ 25º C
Liquid Density:	1.12 g/mL @ 22º C
Solubility in Water:	Disperses
Viscosity:	780cps
Specific Gravity:	1.15 @ 25º C
Odor:	Slight
Color:	Light tan
Physical State:	Viscous liquid

10. STABILITY AND REACTIVITY

General:	This material is stable under normal conditions.
Incompatible Materials:	None known
Hazardous Decomposition:	If product is allowed to dry, toxic vapors will be emitted as it burns.
Hazardous Polymerization:	Material is not known to polymerize.

11. TOXICOLOGICAL INFORMATION

ACUTE

Inhalation:	LC_{50} > 2.09mg/L (4-hour - rat) Vapors are minimal due to the physical properties.
Eye Irritation:	Material is mildly irritating to the eyes.
Skin Irritation:	Prolonged exposure may cause slight skin irritation. It is not considered to be a skin sensitizer.

11. TOXICOLOGICAL INFORMATION (con't)

Skin Absorption:	Acute dermal LD_{50} > 5000 mg/kg (rabbits)
Ingestion:	Oral LD_{50} > 5000 mg/kg (rats)

12. ECOLOGICAL INFORMATION

Chemical Fate:	Fluridone gradually disappears from treated water. The aquatic half-life ranges from 5-60 days with an average of 20 days, depending on a number of environmental factors. Photodegredation is primarily responsible for the dissipation of Fluridone in water. Fluridone concentrations in treated water are also affected by metabolism by plants and fish, and hydrosoil adsorption / desorption.
Ecotoxicity (Fluridone):	
Aquatic LC_{50}:	Bluegill – 14.3 mg/L; Rainbow trout – 11.7 mg/L
Aquatic EC_{50}:	*Daphnia magna* – 6.3 mg/L
Avian Acute Oral LD_{50}:	Bobwhite Quail - >2000 mg/kg
Avian 8-day dietary LD_{50}:	Bobwhite Quail - >5000 mg/kg
Avian 8-day dietary LD_{50}:	Mallard Duck - >5000 mg/kg

13. DISPOSAL CONSIDERATIONS

Wastes resulting from the use of this product may be disposed of at an approved waste disposal facility. Always follow all local, state and federal regulations when disposing this material.

14. TRANSPORT INFORMATION

Department of Transportation (DOT):	Not Regulated
International Air Transport Association (IATA)	Not Regulated
International Maritime Organization (IMO):	Not Regulated

15. REGULATORY INFORMATION

OSHA:	This product is considered hazardous under the OSHA Hazardous Communication Standard (29 CFR §1910.1200).
TSCA:	All product components are on the TSCA Chemical Inventory.

15. REGULATORY INFORMATION (con't)

CERCLA:	Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to the state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.
RCRA:	This product is not classified as hazardous by 40 CFR §261.33.
SARA TITLE III	
311/312 Hazard Categories:	This product has been reviewed according to the EPA "Hazard Categories" relating to SARA Title III, and is categorized as an immediate health hazard (40 CFR §370.41
Reportable Ingredients:	This product does not contain a chemical listed in Section 313 of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR §372.

16. OTHER INFORMATION

REVISION SUMMARY

This document has been prepared using the standard Griffin ANSI Z400.1 compliant format.

The information in this Material Safety Data Sheet relates to this specific material. It may not be valid for this material if used in combination with any other materials or in any process. It is the users' responsibility to satisfy themselves as to the suitability and completeness of this information for their own particular use.