

129081
Shaughnessy Number

9-30-91
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EEB CHEMICAL PROFILE

Pesticide Name: F6285

100 Fish and Wildlife Toxicology:

100.1 Minimum Requirements:

<u>Species</u>	<u>Test Material</u>	<u>Result</u>	<u>Category</u>
Bobwhite (acute)	F6285 technical (94.3% a.i.)	LD ₅₀ >2250mg/kg	Core ¹ *
Bobwhite (dietary)	F6285 technical	LC ₅₀ >5620ppm	Core ²
Mallard (dietary)	F6285 technical	LC ₅₀ >5620ppm	Core ³
Bluegill	F6285 technical	LC ₅₀ =93.8mg/L	Core ⁴
Rainbow trout	F6285 technical	LC ₅₀ >120mg/L	Core ⁵
<u>Daphnia magna</u>	F6285 technical	EC ₅₀ =60.4mg/L	Core ⁶

* Superscript denotes endnote reference number

100.2 Additional Terrestrial Laboratory Tests: None

100.3 Additional Aquatic Laboratory Tests: None

100.4 Field Tests: None

101 General Toxicology

<u>Test</u>	<u>Species</u>	<u>Test subs.</u>	<u>Result</u>
Acute oral toxicity	rat	F6285 technical	3034 mg/kg (male) 2689 mg/kg (fem.)
	mouse	F6285 technical	752 mg/kg (male) 702 mg/kg (fem.)
	rat	F6285 4F herbicide	2084 mg/kg (fem.)
Acute dermal tox.	rabbit	F6285 technical	>2000 mg/kg
	rat	F6285 4F herbicide	>2000 mg/kg
Primary eye irr.	Rabbit	F6285 technical	mild (11/110 UW) non-ir. (washed)
		F6285 4F herbicide	Non-irr.
Primary dermal irr.	Rabbit	F6285 technical	Non-irritating
		F6285 4F herbicide	slightly irrit.
Dermal sensit.	Guinea Pig	F6285 technical	Non-sensitizing
		F6285 4F herbicide	Non-sensitizing

102 Physical and Chemical Properties

- 102.1 **Chemical Name:** 2-(2,4-dichloro-5-methylsulfonylamidophenyl)-4-difluoromethyl-2,4-dihydro-5-methyl-3H-1,2,4-triazol-3-one
- 102.2 **Structural formula:** $C_{11}H_{10}O_3N_4Cl_2F_2$
- 102.3 **Common Name:** F6285
- 102.4 **Trade Name:** FMC97285
- 102.5 **Molecular Weight:** 387.2
- 102.6 **Physical State:** Tan solid
- 102.7 **Properties:**
- 102.7.1 **Solubility:** Water: 4.0×10^2 ug/g
pH 6 buffer: 4.9×10^2 ug/g
(at 25°C) pH 7 buffer: 1.8×10^3 ug/g
pH 7.5 buffer: 2.0×10^3 ug/g
- 102.7.2 **Octanol/Water Partition Coefficient (Kow):**
31.1 at pH 5
9.8 at pH 7
0.27 at pH 9
- 102.7.3 **Soil Adsorption Kd:** 0.153-0.767
- 102.7.4 **Vapor Pressure:** 8×10^{-10} mm Hg at 25°C

103 Behavior in the Environment

- 103.1 **Soil:** Half-life: 81 days in silty loam, 114-122 days in sandy loam and 167 days in silty clay loam.
- 103.2 **Water:** Hydrolytically stable at Ph 5-9.
- 103.3 **Plant:** No data available
- 103.4 **Animal:** No data available
- 103.5 **Estimated Environmental Concentrations**

The Estimated Environmental Concentrations of F6285 based on a maximum application rate of 0.5 lb a.i./acre applied as a preemergence spray are as follows:

Vegetation Residues¹ (Maximum expected values immediately after application)

Short rangegrass	130 ppm
Long grass	55 ppm
Leafy crops	62 ppm
Forage (and small insects)	28 ppm
Legumes and pods (large insects)	6.2 ppm
Fruits	3.6 ppm

Soil Residues²

0.1 inch	11.0 ppm
1.0 inch	1.1 ppm
6.0 inches	0.18ppm

Water (direct application)²

0.5 feet	367.0 ppb
1 foot	183.7 ppb
6 feet	30.6 ppb

Water (runoff) (See Attachment A) 3.05 ppb
(if soil incorporated 1 inch, EEC = 1.22 ppb)

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Uses and Special Concerns

F6285 is not currently registered for any use.

¹Hoerger, F.D. and E.E. Kenaga. 1972. Pesticide Residues on Plants: Correlation of Representative Data as a Basis for Estimation of Their Magnitude in the Environment. Environmental Quality. Academic Press, New York, I:9-28.

²Urban, D. and N. Cook. 1986. Ecological Risk Assessment. EPA-540/9-85-001).

1. Campbell, Susan, Steven P. Lynn and Gregory J. Smith. F6285: An acute oral toxicity study with the Northern bobwhite. Wildlife International, Easton, MD. WIL #104-165. MRID #419116-17.

2. Beavers, Joann B., J. Grimes, G.J. Smith and S.P. Lynn. F6285: A dietary LC₅₀ study with the Northern bobwhite. Wildlife International, Easton, MD. WIL#104-163. MRID#419116-18.

3. Beavers, Joann, J. Grimes, G.J. Smith and S.P. Lynn. F6285: A dietary LC₅₀ study with the mallard. Wildlife International, Easton, MD. WIL#104-163. MRID #419116-19.

4. Graves, William C. and G.T. Peters. F6285: A 96-hour flow-through acute toxicity test with the bluegill, Lepomis macrochirus. Wildlife International, Easton, MD. WIL#104A-104. MRID #419116-21.

5. Graves, William C and G.T. Peters. F6285: A 96-hour flow-through acute toxicity test with the rainbow trout, Oncorhynchus mykiss. Wildlife International, Easton, Md. WIL#104A-103. MRID #419116-20.

6. Holmes, Catherine M. and G.T. Peters. F6285: A 48-hour flow-through acute toxicity test with the cladoceran Daphnia magna. Wildlife International, easton, MD. WIL#104A-105A. MRID #419116-22.

F6285

Attachment A

EEC CALCULATION SHEETI. For un-incorporated ground application

A. Runoff

*Max appl rate
5 lb a.i./acre
10 A. pond
10 inches deep*

$$5 \text{ lb(s)} \times \frac{0.01}{(1\% \text{ runoff})} \times \frac{10 \text{ (A)}}{(\text{from 10 A. drainage basin})} = \underline{.05} \text{ lb(s)} \text{ (tot. runoff)}$$

EEC of 1 lb a.i. direct application to 1 A. pond 6-foot deep = 61 ppb

$$\text{Therefore, EEC} = 61 \text{ ppb} \times \underline{.05} \text{ (lb)} = \underline{3.05} \text{ ppb}$$

II. For incorporated ground application

A. Runoff

$$5 \text{ lb(s)} \div \frac{2.5}{(\text{depth of incorporation})} \text{ (cm)} \times \frac{0.01}{(1\% \text{ runoff})} \times \frac{10 \text{ (A)}}{(10 \text{ A. d.basin})} = \underline{.02} \text{ lb(s)} \text{ (tot. runoff)}$$

$$\text{Therefore, EEC} = 61 \text{ ppb} \times \underline{.02} \text{ (lbs)} = \underline{1.22} \text{ ppb}$$

III. For aerial application (or mist blower)

A. Runoff

$$\text{_____ lb(s)} \times \frac{0.6}{(\text{appl. efficiency})} \times \frac{0.0}{(\% \text{ runoff})} \times \frac{10 \text{ (A)}}{(10 \text{ A. d.basin})} = \text{_____ lb(s)} \text{ (tot. runoff)}$$

B. Drift

$$\text{_____ lb(s)} \times \frac{0.05}{(5\% \text{ drift})} = \text{_____ lb(s)} \text{ (tot. drift)}$$

$$\text{Tot. loading} = \text{_____ lb(s)} \text{ (tot. runoff)} + \text{_____ lb(s)} \text{ (tot. drift)} = \text{_____ lb(s)}$$

$$\text{Therefore, EEC} = 61 \text{ ppb} \times \text{_____ (lbs)} = \text{_____ ppb}$$