

109901

Shaughnessey Number

Completed

Revised

EEB Chemical Profile

Pesticide Name: Triadimefon (Bayleton 50 WP)

100 Fish and Wildlife Toxicology100.1 Minimum Requirements100.1.1 Avian Acute Oral LD50

Mallard duck	Tech.	LD ₅₀ > 4000 mg/kg	Core
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100.1.2 Avian Dietary LC50

Mallard duck	Tech.	LC ₅₀ > 10,000 ppm	Core
Bobwhite quail	Tech.	LC ₅₀ > 4,640 ppm	Core

100.1.3 Fish Acute LC50

Rainbow trout	Tech.	96 h. LC ₅₀ = 14 ppm	Core
Bluegill sunfish	Tech.	96 h. LC ₅₀ = 11 ppm	Core
Channel catfish	Tech.	96 h. LC ₅₀ = 15 ppm	Core

100.1.4 Aquatic Invertebrate LC50

Daphnia	Tech.	48 h. LC ₅₀ = 1.6 ppm	Core
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100.2 Additional Terrestrial Laboratory Tests

Mallard duck	Tech.	NOEL = >500 ppm (reprod.)	suppl.
Bobwhite quail	Tech.	NOEL = 20 ppm (reprod.)	Core
Honey bees	Tech.	LD ₅₀ (AO+AC) > 25 ug/bee	Core

100.3 Additional Aquatic Laboratory Tests

Daphnia	Tech.	MATC = 154-314 ppm	Core
Daphnia	Tech.	LC ₅₀ = 178 ppb (21d)	
		No impairment at <= 100 ppb	Core
		LC ₅₀ = 283 ppb (21d)	
Rainbow trout	Tech.	LC ₅₀ = 1270 ppb (17d)	Suppl.
Rainbow trout	Tech.	LC ₅₀ (96h)=40-60 ppm	Abbr. review
Gold fish	Tech.	LC ₅₀ (96h)=60 ppm	Abbr. review
Mirror carp	Tech.	LC ₅₀ (96h)=40-60 ppm	Abbr. review
Gold ides	Tech.	LC ₅₀ (96h)=60-80 ppm	Abbr. review
Daphnia	Tech.	LC ₅₀ (48h)=11.3 ppm	Abbr. review
Bluegill	Bayleton 50 WP	LC ₅₀ (96h)=16 ppm	Suppl.
Rainbow trout	Bayleton 50 WP	LC ₅₀ (96h)=28 ppm	Suppl.
Crayfish	Bayleton 50 WP	LC ₅₀ (96h)=104 ppm	Suppl.
Rainbow trout	93% Triadimefon	60-day LC ₅₀ =717 ppb	Core
Acc# 251243 (Natella, 12-15-83)		MATC = 68.6 ppb	
Green Algae (<i>Scenedesmus subspicatus</i>)	Tech.	96-hr EC ₅₀ = 0.9 ppm (growth of biomass)	Suppl.
Acc# 262751 (Rieder, 10-15-86)		EC ₅₀ = 1.71 ppm (algal growth)	"

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EEB Chemical Profile (cont.)

Triadimefon (Bayleton 50 WP)

101. General Toxicology

(Reference: Toxicology Branch memo by J. D. Doherty, 2/15/78)

Acute Oral LD₅₀

<u>Species</u>	<u>Formulation</u>	<u>LD₅₀ (mg/kg)</u>
Rat (male)	92 % Tech.	568 mg/kg
Rat (female)	92 % Tech.	363 mg/kg
Mouse (male)	92 % Tech.	987 mg/kg
Mouse (female)	92 % Tech.	1071 mg/kg
Rabbit	Tech.	500 mg/kg
Dog	Tech.	500 mg/kg
Rat (male)	50 % WP	812 mg/kg
Rat (female)	50 % WP	1470 mg/kg
Rat (male)	25 % WP	2828 mg/kg
Rat (female)	25 % WP	3668 mg/kg

Teratology

Three studies (oral in rats, inhalation in rats, and oral in rabbits) showed no indication of embryo toxicity or teratogenesis at 50 mg/kg.

102 Physical and Chemical Properties

102.1 Chemical Name

1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone

102.2 Structural Formula

102.3 Common Name

Triadimefon

102.4 Trade Name

Bayleton 50 WP

102.5 Molecular Weight

293.7

102.6 Physical State

White to tan crystal

EEB Chemical Profile (cont.)

Triadimefon (Bayleton)

102.7 Properties

102.7.1 Solubility

Water 260 ppm @ 20°C
Cyclohexanone 35 %
Toluene 25 %
Isopropanol Chloride > 50 %
Ligroin 25 %

102.7.2 Octanol/Water Partition Coefficient

102.7.3 Soil. Adsorption Coefficient

102.7.4 Vapor Pressure < 10⁻⁶ mbar @ 20 °C

103 Behavior in the Environment

103.1 Soil

In laboratory studies, the half-life of triadimefon was six days in aerobic soil and 15 days in anaerobic soil. In field studies, the average half-life was five days, but the half-life of triadimefon and its primary degrade (KWG-0519) was 225 days.

103.2 Water

Triadimefon is stable to hydrolysis at pH 3, 6, and 9 and temperature of 25 C, 35 C and 45 C. It will photolyze in water with a half-life of 10-12 hours. In a simulated pond environment, triadimefon has a half-life of 6-8 days in the water and 18-20 days in the silt.