7-28-84

125851
Shaughnessey Number

Initiated: January 30, 1984
by Elizabeth E. Zucker

Revised: July 28, 1984
by E. E. Zucker

EEB CHEMICAL PROFILE

EL-107

100 Fish and Wildlife Toxicology

100.1 Minimum Requirements

100.1.1 Avian Acute Oral LD_{50}

Species	Product	Results	Category	Reference
Bobwhite Quail	Tech.	LD_{50} > 2,000 mg/kg	Core	Lake et. al. 1982

100.1.2 Avian Dietary LC_{50} (8-day)

Species	Product	Results	Category	Reference
Bobwhite Quail	Tech.	LC_{50} > 5,000 ppm	Core	Lake et. al. 1982
Mallard	Tech.	LC_{50} > 5,000 ppm	Core	Lake et. al. 1982

100.1.3 Fish Acute LC_{50} (96 hour)

Species	Product	Results	Category	Reference
Bluegill	Tech.	LC_{50} > 1 ppm	Supple.	Lake et. al. 1982
Rainbow Trout	Tech.	LC_{50} > 1 ppm	Supple.	Lake et. al. 1982
Japanese Carp	Tech.	LC_{50} > 1 ppm	Supple.	Lake et. al. 1984

100.1.4 Aquatic Invertebrate LC_{50} (48 hour)

Species	Product	Results	Category	Reference
Daphnia magna	Tech.	EC_{50} > 1 ppm	Supple.	Lake et. al 1982

100.2 Additional Terrestrial Laboratory Tests

A 14 day study on earthworms (Lumbricus terrestris), showed the no-effect level of soil-incorporated EL-107 to be greater than 100 mg/kg.

100.3 Additional Aquatic Laboratory Tests

100.3.1 Freshwater Fish Early-Life Stage Studies

Rainbow Trout

No effects were found on hatching success, behavior, survival or final size of rainbow trout exposed to measured concentrations of EL-107 as high as 0.42 mg/l. This 66 day study was categorized as supplemental because an effect level was not determined. The results can only be used in hazard assessments where aquatic concentrations of the chemical approach 0.42 mg/l.

Fathead Minnow

The survival and body size of fathead minnows were not significantly reduced by exposure to measured concentrations of EL-107 as high as 0.40 mg/l. This 33 day study was categorized as supplemental because an effect level was not determined. The results can only be used in hazard assessments where aquatic concentrations approach 0.40 mg/l.

It should be noted that deformed larvae were observed in controls and treatment groups of both the trout and minnow studies. See the DER on the minnow test for details.

100.3.2 Aquatic Invertebrate Life-Cycle Study

Statistically significant effects on growth and brood size parameters were found for Daphnia magna exposed to 1.01 mg/l measured concentrations of EL-107. The chronic no-observed effect level of the chemical for daphnids was 0.69 mg/l.

100.3.3 Algae Study

Based on measurements of cell population density and algal biomass, no inhibition of reproduction occurred in cultures of Selenastrum capricornutum exposed to concentrations of technical EL-107 as high as 1 ppm.

101 Mammalian Toxicology

The following information was extracted from Toxicology Review dated December 13, 1984.

Rat acute oral LD_{50} > 2,000 mg/kg
Mouse acute oral LD_{50} > 10,000 mg/kg

Rat intraperitoneal LD_{50} > 2,000 mg/kg
Mouse intraperitoneal LD_{50} > 10,000 mg/kg

Rabbit acute dermal LD_{50} > 10,000 mg/kg

Rat 3-generation reproduction

Systemic NOEL = 500 ppm
Systemic LEL = 2500 ppm

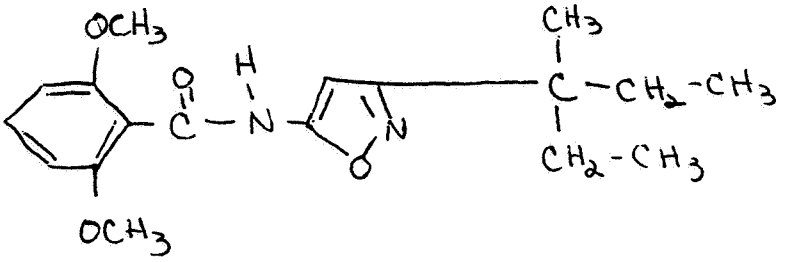
Feto-toxic NOEL = 2500 ppm
Feto-toxic LEL = 12500 ppm

102 Physical and Chemeical Properties

102.1 Chemical Name

N-[3-(1-ethyl-1-methylpropyl)-5-isoxazolyl]-2,6-dimethoxybenzamide

102.2 Structural Formula



$C_{18}H_{24}N_2O_4$

102.4 Trade Name

EL-107 (Compound 121607)

102.5 Molecular Weight

332.39

102.6 Physical State

Crystalline solid

102.7 Properties

102.7.1 Solubility

Solvent	Solubility (mg/ml at 25^{0}C)
Chloroform	50-100
Dichloromethane	50-100
Methanol	50-100
Acetone	50-100
Ethyl acetate	50-100
Acetonitrile	30-50
Toluene	4-5
Xylene	4-5
Hexane	0.07- 0.08
Water	0.0008-0.001

102.7.2 Octanol/Water Partition Coefficient

K_{ow} 434
Log K_{ow} 2.64

103 Environmental Fate Information

The registrant submitted several Environmental Fate studies which are reviewed in EAB report out September 1983 by E. Regelman. Only 2 tests were found acceptable by EAB : the hydrolysis study and the octanol/water partition study. Please refer to the report for details.

103.1 Water

EL-107 was found to be quite stable to hydrolysis. No degadation was found in solutions (of various pH) sampled for 32 days.

125851
Isoxaben
DSR 9-17-87

ENVIRONMENTAL FATE INFORMATION

STUDY TYPE / DATA	RESULTS	RVW DATE
Aerobic soil Metabolism	$t_{1/2}$ 4.3 months - clay loam	
	5.6 months - loam	
	10.6 months - sandy loam	12/31/85
Octanol/ Water partition coefficient	434	12/19/85