

US EPA ARCHIVE DOCUMENT

105001

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FISH AND WILDLIFE  
DATA ABSTRACTING FORM I

CHEMICAL NAME AND PROPERTIES Counter

New chemical?  
American Cyanamid  
12-11-72 exp permit  
241-2-81

S-(tert-butylthio)methyl O,O-diethyl phosphorodithioate

CROSS REFERENCE NAMES AC 92,100; ST-100; ENT-27,920

ORGANISM	LD <sub>50</sub>	LC <sub>50</sub>			OTHER	DATA SOURCE
	Mg/Kg	ppm or ppb				
		24	48	96 hr		
RAT ♂	4.5					96.7% Technical
RAT ♀	9.0					"
MOUSE ♂	3.5					"
MOUSE ♀	9.2					"
DOG ♂	4.5					"
DOG ♀	6.3					"
RABBIT, DESMAL	1.1					"

Pheasant

RABBIT

145 ppm (1285-76) Tech AC 92,100

Mallard Duck

125 ppm (1285-76) " " "

Rabbit

125 ppm (1285-76) " " "

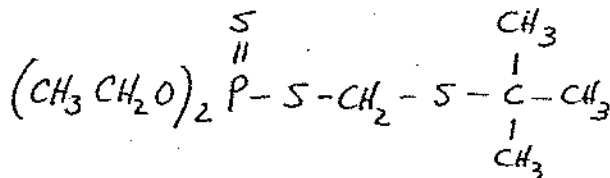
Blue Jay

0.024 ppm " " "

RABBIT, EYE IRRITATION - All rabbits died within 24 hrs. after receiving 0.1 ml in the eye. 100% - 100%

RABBIT, SKIN IRRITATION - All rabbits died within 24 hours from exposure to 0.5 ml on skin. (96.7% tech)

REMARKS ON ABOVE DATA

Empirical formula C<sub>9</sub>H<sub>21</sub>O<sub>2</sub>PS<sub>3</sub>

Molecular weight 288.43

Technical AC 92,100 is considered to be highly toxic both by ingestion and by skin contact.

DO NOT TYPE

EXP PERMIT - Application for corn at planting time only. Applications are to be made in a 7-inch band over the row directly behind planter shoe and in front of press wheel. For control of corn rootworm. Use 6-8 g/156 per 1000

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CROSS REFERENCE NAMES

ORGANISM	LD <sub>50</sub>	LC <sub>50</sub>			OTHER	DATA SOURCE
	Mg/Kg	ppm or ppb				
		24	48	96	hr	
RAT	1.6					72-h 55.8%
BLUE-GILL	5.0					"
RAINBOW TROUT						
SHRIMP	1.1					"
CRAB						121 rabbits died within 30 hrs to 0.25 ml exposure
OYSTER						" " " " to 0.1 ml in eye.
DAPHNIA						
REPTILE						
AMPHIBIAN						
RINGNECK PHEASANT						
BOBWHITE QUAIL						
JAPANESE QUAIL						
COTURNIX QUAIL						
MALLARD DUCK						

REMARKS ON ABOVE DATA

Acute toxicity of Phosphorus-Containing Metabolites of AC 92,100

a. Phosphorothioic acid, 5-(tert-butylthio)methyl O,O-diethyl ester  
mouse, acute oral LD<sub>50</sub> = 2.2 mg/kg

b. Phosphorothioic acid, 5-(tert-butylsulfonyl)methyl O,O-diethyl ester  
mouse, acute oral LD<sub>50</sub> = 1.1 mg/kg

c. Phosphorothioic acid, 5-(tert-butylsulfonyl)methyl O,O-diethyl ester  
mouse, acute oral = 3.4 mg/kg

d. Phosphorothioic acid, 5-(tert-butylsulfonyl)methyl O,O-diethyl ester  
mouse, acute oral = 3.4 mg/kg

e. Phosphorothioic acid, 5-(tert-butylsulfonyl)methyl O,O-diethyl ester

FISH AND WILDLIFE  
DATA ABSTRACTING FORM II

SIMULATED FIELD STUDY

REPRODUCTIVE STUDY

RESIDUE STUDY

## OTHER TESTING OR CONTINUATION OF ANY OF THE ABOVE SUBJECTS

## 1. 30-day repeated feeding (Technical)

a. Rats - diets of 0.125, 0.5, and 2.0 ppm for 31 days.

Results - No gross lesions observed related to ingestion of cpd. 2.0 ppm did not sign. affect food intake, weight gains, kidney and liver weights. 2.0 ppm did markedly depress RBC, plasma and brain cholinesterase.

b. Mice - diets 1.0, 4.0, and 16 ppm for 31 days.

Results - No gross lesions related to ingestion of cpd. 16 ppm sign. depressed weight gains. 16 ppm did not affect kidney and liver weights.

c. Beagle dogs - diets 0.01, 0.05, and 0.25 mg/kg for 30 days.

Results - Overall appearance and behavior was good.

0.25 mg/kg sign. depressed body weight change, but no adverse effect on weights of liver and kidney.

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c. Beagle dogs - diets 0.01, 0.05, and 0.25 mg/kg for 30 days.

Results - Overall appearance and behavior was good. 0.25 mg/kg sign. depressed body weight change, but

cholinesterase. The lowest level (0.91 mg/kg) also depressed plasma cholinesterase.

2. 6 month feeding in dogs.

Technical fed in diet at 2.5, 10, and 40 mg/kg daily for 6 months. No signs of intoxication and no changes in normal patterns. No effect dose for plasma cholinesterase falling between 2.5 and 10.0 mg/kg.

3. Neurotoxicity study in Hens

$LD_{50} = 43.5 \text{ mg/kg}$ . Groups treated with 40 mg/kg and held for 21 days. Hens surviving the 1st dose were treated again and observed for another 21 days. All hens surviving fully recovered w/o clinical evidence of residual neurotoxicity.

4. 3 Generation reproduction with rats in progress.

Counter - ST-100 15-G SOIL INSECTICIDE

Control corn root worm with an application made in  
a 7-inch band over the row directly behind the  
planter shoe and in front of the press wheel.

Rate of application: 6-8 ounces of 15G/1000 foot of row.  
(Corn is planted on 20, 30, and 40-inch row spacings.)

Section D-1

Metabolic fate of residues in sweet corn

15G applied at 5, 16, 32, and 50 oz/1000' row

40, 60, 80, 100, 135 days post-treatment  $\leq 0.05$  ppm AC 92,100 +  
in corn tissue. 1 test 32 days - 1.18 ppm 40 days post metabolites

Residue studies milk and cattle tissues.

Cattle fed 2.0 ppm in diet for 21 days.

milk samples contained less than 0.01 ppm

and all tissue samples contained less than

0.05 ppm of AC 92,100 and metabolites.

Residues in soil

up to 50 oz/1000' row applied (10/16 active/A)





p. 7 316 should read 31.6 ppm

Fish - what is "Cycoceel"

↳ is "Cycoceel" a formulation of  
AC 92,100

↳ Cycoceel®

$$22.7 \text{ mg per } 56 \text{ in}^2 = 1 \text{ lb/A}$$

Con

Study

Examination of the composition of the metabolite complex in corn plants grown on soil treated with 1 lb/A of CL 92,100 reveals considerable variation in the residual behavior of the individual metabolites with passage of time