ENVIRONMENTAL SAFETY
REVIEW SUMMARY
107901

107901:

J.W. AKERMAN (2)
ECOLOGICAL EFFECTS BR.
REVIEW SUMMARY

Chemical name Ortho Rose Disease Control
Common Funginex (Triforine)
Chemical N,N'-[1,4-piperazinediyl-bis-(2,2,2-trichloroethylidene]-bis-[
Company Chevron
Submission TEMP PERMIT ____ PETITION ____ REGISTRATION 239-[illegible]
Date submitted ____ Date received 4/11/75

Type of chemical fungicide
Use roses

Data submitted for review
Environmental safety:
Mammal LD_{50} ____
mammal chronic ____
Fish ✓
Bird ✓
Shrimp, crab, oyster ____
Other ____
Environmental chemistry (70-15)
Fish, residue ____
Other ____

AKERMAN

Chemical Triforine

Conclusions:

1. systemic fungicide - 6.5% ai
2. ½ oz/gal → .002 lbs ai/gal
   spray to cover all plant surfaces (upper + lower leaf surfaces); apply 7-10 day intervals in fall + spring; if summer weather conditions favor fungi growth → spray the entire growing season
3. acute oral quail study required to but not submitted (LD50 > 6000 mg/kg
4. label "w34, 38, 99"
5. no problems foreseen

Recommendations

submit acute quail study

4/11/75

Chemical - Triforine

Citation

Chevron

Accession NO

Req. NO.

Exp permit NO.

Petition NO.

Submission date 3/28/75

ORGANISM	TEST	LD_{50}	LC_{50} Dietary	LC_{50} Aquatic 24 hr	48 hr	96 hr	TEST MATERIAL
*Bluegill				>1000 ppm		>1000 ppm	tech n.e. at 1000ppm
*rainbow trout				>1000 ppm		>1000 ppm	tech n.e. at 1000ppm
guppy		50 ppm - no	effect in	guppies			
* bobwhite quail	8 day dietary		1849 ppm (1142-2994)				tech.
* [illegible]	8 day dietary		>4640 ppm (no deaths at	highest	dose)		"

* submitted originally by FMC, Niagra

ENVIRONMENTAL SAFETY
DATA ABSTRACT

J. W. AKERMAN
ECOLOGICAL EFFECTS

Chemical Triforine

Citation

Chevron

Accession no.

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Exp. permit

Petition

Submission Date 3/28/75

ORGANISM	DOSE	SYMPTOM/EFFECT	TEST MATERIAL
rainbow trout bioaccumulation study	1 ppm	While living in treated water, fish contain .13–.26 ppm triforine and its degradation products. (2) 30 days after exposure ended, the fish contained .05 ppm (3) at end of exposure (32 days), the fish contained .15 ppm which were exclusively strong polar degradation products (not triforine).	

ENVIRONMENTAL SAFETY
DATA REQUEST

J.W. FREEMAN
Ecological Effects Br

Chemical Triforine

Citation Chevron

Accession NO

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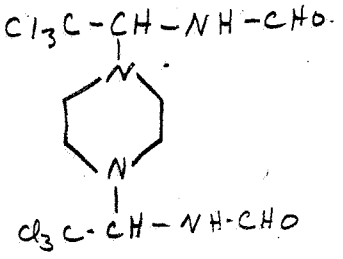
Petition NO.

Submission date 3/28/75

Chemistry

Structure



chemical characteristics

empirical formula - $C_{10}H_{14}Cl_6N_4O_2$
molecular wt. - 435
vapor pressure (25°C) - 2×10^{-7}
melting pt. - 155°C
Solubility in H_2O is 28ppm at room temperature

Formulation (s)

liquid

Use

fungicide for roses

ENVIRONMENTAL SAFETY
DATA REQUEST

J.W. SHERMAN
Ecological Effects Br

Chemical Triforine

Citation
Chevron

Accession NO

Req. NO.
Exp permit NO.
Petition NO.
Submission date 3/28/75

FATE IN THE ENVIRONMENT

SOIL

½ life ~2 weeks (slower in dry seasons)
degradation is probably chemical rather than biological
triforine may not leach but its metabolites appear to be mobile in soil

WATER

rapid degradation in water (2 days – 1 week)

PLANT

uptake by roots + transpired to aerial portions of plant w/ half-life of 9-10 days → study done w/ 3 week old barley plants after a soil drench

ANIMAL

96% of dose was excreted through urine + feces after 72 hours in the rat

ENVIRONMENTAL SAFETY
REVIEW SUMMARY

107901

J. W. AKERMAN (1)
ECOLOGICAL EFFECTS BR.
REVIEW SUMMARY

Chemical name: Cela W524

Common: Triforine

Chemical: N,N'-[1,4-piperazinediylbis(2,2,2-trichloroethylidene)]bis[for

Company: FMC

Submission: TEMP PERMIT ____ PETITION ____ REGISTRATION 279-EUP-29

Date submitted ____ Date received 12/10/74

Type of chemical: fungicide

Use: greenhouse roses

Data submitted for review

Environmental safety:

Mammal LD_{50}	____
mammal chronic	____
Fish	✓
Bird	✓
shrimp, crab, oyster	____
Other	____

Environmental chemistry (70-15)

Fish, residue	____
Other	____

AKERMAN

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Chemical ~~Cela~~ Cela W524 (Triforine)

Conclusions:

1. for control of powdery mildew on roses in greenhouse

Recommendations

NAE 12/10/74 JFE

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Chemical Triforine

Citation FMC

Req. NO. 279-EOON-2990

Exp permit NO.

Petition NO.

Accession NO

Submission date 12/10/74

ORGANISM	TEST	LD_{50}	LC_{50} Dietary	LC_{50} Aquatic 24 hr	48 hr	96 hr	TEST MATERIAL
Robwhite quail	8-day Subacute		1849 ppm (confidence limits 1142-2994 ppm)				tech
mallard duck	8-day subacute		>4640 (no effect)				tech
rainbow trout	96 hrs.					>1000	no effect at this level tech
bluegill sunfish	96 hrs					>1000	no effect at this level tech
Quail		>6,000 mg/kg					