2-19-91

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MEMORANDUM

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

SUBJECT: Review Studies Conducted Amitraz Degradates DP
Barcode: 163178
ID No: 04569-RUA

FROM: Douglas J. Urban, Acting Chief
Ecological Effects Branch
Environmental Fate and Effects Division (H7507C)

TO: Dennis Edwards, PM 12
Insecticide-Rodenticide Branch
Registration Division (H7505C)

BACKGROUND

Because of the persistence in the environment of Amitraz degradates BTS 27919 and BTS 27271, degradate toxicology studies were requested. In response, Nor-Am Chemical Company sent the following studies:

72-1 96 hour LC_{50} with Rainbow trout

Study Identification: Schupner, J. K. 1991. The Acute Toxicity of BTS 27271 to the Rainbow trout, Oncorhynchus mykiss in a flow through system. Study performed by Nor-Am Chemical Company, Nor-Am Research Center, Pikesville, NC 27863. MRID No. 418272-03. ID No. 45639-RUA (Amitraz 45639-51). STUDY No. 512L.

72-1 96 hour LC_{50} with Rainbow trout.

Study Identification: Schupner, J. K. 1991. The Static Acute Toxicity of BTS 27919 to the Rainbow trout, Oncorhynchus mykiss. Study performed by Nor-Am Chemical Company, Nor-Am Research Center, Pikesville, NC 27863. MRID No. 418272-06. ID No. 045639-RUA (Amitraz 45639-51). STUDY No. 501L.

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CONCURRENCES								
SYMBOL		H7507C	H7507C	H7507C				
SURNAME		Vaughan	H. Manfred	Cook for DU				
DATE		7.19.91	7/19/91	7.19.91				

EPA Form 1320-1 (12-70) *U.S.GPO:1989-624-485/10186 OFFICIAL FILE COPY

72-1 96 hour LC_{50} with Bluegill sunfish.

Study Identification: Schupner, J. K. and Stachura, B. J. 1991. The Acute Toxicity of BTS 27271 to the Bluegill sunfish, Lepomis macrochirus in a flow through system. Study performed by Nor-Am Chemical Company, Nor-Am Research Center, Pikesville, NC 27863. MRID No. 418272-02. ID No. 45639-RUA (Amitraz 45639-51). Study No. 513L.

72-1 96 hour LC_{50} with Bluegill sunfish.

Study Identification: Schupner, J. K. 1991. The Static Acute Toxicity of BTS 27919 to the Bluegill sunfish, Lepomis macrochirus. Study performed by Nor-Am Chemical Company, Nor-Am Research Center, Pikesville, NC 27863. MRID No. 418272-05. ID No. 045639-RUA (Amitraz 04569-51). Study No. 500L.

72-2 Freshwater invertebrate 48 hour EC_{50} with Daphnia magna.

Study Identification: Schupner, J. K. and Stachura, B. J. 1991. The Static Acute Toxicity of BTS 27271 to Daphnia magna. Study performed by Nor-Am Chemical Company, Nor-Am Research Center, Pikesville, NC 27863. MRID No. 418272-04. ID No. 45639-RUA (Amitraz 45639-51). STUDY No. 511L.

72-2 48 hour EC_{50} with Daphnia.

Study Identification: Schupner, J. K. and Young, B. M. 1991. The Static Acute Toxicity of BTS 27919 to Daphnia magna. Study performed by Nor-Am Chemical Company, Nor-Am Research Center, Pikesville, NC 27863. MRID No. 418272-07. ID No. 45639-RUA (Amitraz 45639-51). Study No. 507L.

REVIEW SUMMARY

SPECIES	TEST MATERIAL	RESULTS	MRID#	AUTHOR	FULFILLS REQMNTS.
Trout	BTS27271, Degradate	96 Hour LC_{50} = 28.36 ppm	418272-03	Schupner	No[1]
Trout	BTS27919, Degradate	96 Hour LC_{50} = 66.23 ppm	418272-06	Schupner	Yes
Bluegill	BTS27271, Degradate	96 Hour LC_{50} = 29.33ppm	418272-02	Schupner & Stachura	No[1]
Bluegill	BTS27919, Degradate	96 Hour LC_{50} > 100 ppm	418272-05	Schupner	Yes
Daphnia	BTS27271, Degradate	48 Hour EC_{50} = 2.59 ppm	418272-04	Schupner	No[1]
Daphnia	BTS27919, Degradate	48 Hour EC_{50} > 100 ppm	418272-07	Schupner & Young	Yes

[1] More information is needed on BTS 27271 and its adduct BTS 27271-HCl. EEB needs to have data on how BTS 27271 and BTS 27271-HCL compare, toxicologically. Specifically, data on the dissociation constant and water solubility of BTS 27271 and BTS 27271-HCl is desired in order to ascertain if BTS 27271-HCl is adequate for investigating the toxicity of BTS 27271. The studies can be re-evaluated after this additional information has been supplied.

REQUIREMENTS FOR REGISTRATION

The following studies with these degradates are still required. Species in parenthesis are preferred:

71-2 Avian dietary LC_{50} with an upland game bird (Bobwhite quail) and a waterfowl species (mallard).

72-3 Estuarine and marine acute LC_{50} with fish (Sheepshead minnow), shrimp (Mysid shrimp), and mollusks (Eastern oyster).

Pending the evaluation of the degradate acute studies and environmental fate data, the following studies are reserved:

72-4 Avian reproduction with an upland game (Bobwhite quail) and a waterfowl species (mallard).

72-4 Freshwater fish early life-stage (Rainbow trout) and freshwater invertebrate life-cycle with Daphnia magna.

72-4 Estuarine fish early life stage (Sheepshead minnow) and estuarine invertebrate life-cycle (Mysid shrimp).

72-5 Fish full life-cycle.

72-6 Aquatic organism accumulation.

The following data requirement with technical grade Amitraz is not fulfilled:

71-4 Avian reproduction with bobwhite and mallard.

The following field testing may be required depending on the results of the above and environmental fate data:

71-5 Simulated or actual field testing --mammals and birds.

72-7 Simulated or actual field testing--aquatic organisms.

If you have any questions, please contact Heather Mansfield.