

US EPA ARCHIVE DOCUMENT



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

NOV 15 1996

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: Review of Chronic Aquatic Studies with Hydrogen Cyanamid

FROM: Dan Rieder, Acting Chief *num - Park 11/15/96*
Ecological Effects Branch
Environmental Fate and Effects Division (7507C)

TO: Joanne Miller, Product Manager 23
Registration Division (7505C)

EEB has completed review of study MRIDs 44076701(Rainbow Trout Early Life Stage) and 44076702(Daphnid Lifecycle) submitted with Barcode D228813. The Daphnia study was found acceptable for fulfillment of registration requirements. Hydrogen cyanamid was found to be toxic to *Daphnia magna* reproduction and growth. The chronic LOEC is 0.1 ppm for freshwater invertebrates. The chronic study with rainbow trout was found to be only partially acceptable due to the fact that a true LOEC was not determined. The LOEC has been shown to be less than 0.507 ppm, the lowest dosage tested. This value indicates that the chemical is chronically toxic to growth and reproductive processes of freshwater fish at less than 0.5 ppm.

Due to the fact that a true LOEC for chronic effects to fish has not been established by this study the Agency is requesting that this study be repeated at low enough dosages to establish a true NOEC and LOEC range for use in the risk assessment process.

The registrant is requesting that a number of new uses be added to the label for Dormex. These include apples(in California only), blueberries(U.S.), cherries(U.S.), kiwifruit(California only), peaches(U.S.), nectarines(U.S.) and grapes(California-unrestricted). Each of these uses constitutes a Section 3 request for a new use on a previously unregistered crop. The total acreage involved would be substantial. The data requirements for hydrogen cyanamid, active ingredient in Dormex plant growth regulators, were satisfactory for a limited use on desert grown grapes in California and Arizona only. The Branch would like to address each of these newly proposed uses on an individual basis. A number of additional data requirements will be triggered by these uses. Most of the data requirements previously waived on the attached data requirement chart would need to be completed by the registrant in order to fulfill ecological effects data requirements for these new uses.

Further questions regarding the review of these studies should be addressed to Brian Montague at 305-6438 or Les Touart at 305-6134.



Data Requirements For Registration of Hydrogen Cyanamide Registration on Apples, Blueberries, Cherries, Kiwifruit, Peaches, Nectarines and Grapes (Unrestricted)

Data Requirement 158.150 Wildlife and Aquatic Organisms	Composition1	Does EPA Have Satisfactory Data?	Bibliographic Citation(s)	Data Required?
71-1 Avian Acute Oral	TGAI	Yes	260406	No
71-1 Avian Acute Oral	TEP	No		No
71-2 Avian Dietary (Bobwhite and Mallard Duck)	TGAI	Yes	421784-01, 421784-02, 07372801	No
71-2 Avian Dietary	TEP	No		No
71-3 Wild Mammal Acute Toxicity	TGAI	No		No
71-4 Avian Reproduction Chronic Toxicity (Mallard duck and Bobwhite quail)	TGAI	No	No studies submitted	Yes ³
71-5 Simulated Actual Field Test Mammals & Birds	TEP	No	No studies submitted	Yes No
72-1a Freshwater Fish Acute	TGAI	Yes	26040601, 07372801	No
72-1b Freshwater Fish Acute	TEP	No		No
72-2a Freshwater Invertebrate Acute	TGAI	Yes	07372801	No
72-2b Freshwater Invertebrate Acute	TEP	No		No
72-3a Estuarine/ Marine Fish Acute	TGAI	No	No studies submitted	Yes ³
72-3 Estuarine/Marine Fish Acute	TEP	No		No
72-3b Estuarine/Marine Shellfish Acute	TGAI	No	No studies submitted	Yes ³
72-3 Estuarine/Marine Shellfish Acute	TEP	No		No
72-3c Estuarine/Marine Shrimp Acute	TGAI	No	No studies submitted	Yes ³
72-3 Estuarine/Marine Shrimp Acute	TEP	No		No
72-4a Fish Early Life Stage Chronic Toxicity	TGAI	No	44076701 (study was supplemental)	Yes Still Required
72-4b Freshwater Invertebrate Life Cycle Chronic Toxicity	TGAI	Yes	44076702	No
72-5 Full Fish Life Cycle	TGAI	No		Reserved
72-7 Simulated or Actual Aquatic Field	TEP	No		No

Registration Data Requirements For Hydrogen Cyanamid

Plant Protection Data Requirements FIFRA 158.50	Composition	Does EPA Have Satisfactory Data?	Bibliographic Citation	Data Required Under FIFRA Sec.3(c)(2)B?
122-1 Tier I Seed Germination	TGAI	No		No ⁴
122-1 Tier I Seedling Emergence	TGAI	No		No ⁴
122-1 Tier I Vegetative Vigor	TGAI	No		No ⁴
122-2 Tier I Aquatic Plant Growth	TGAI	No		No ⁴
123-1 Tier II Seed Germination	TGAI	No		No
123-1 Tier II Seedling Emergence	TGAI	No		No
123-1 Tier II Vegetative Vigor	TGAI	No		No
123-2 Tier II Aquatic Plant Growth	TGAI	No		No
NonTarget Insect Toxicity Data FIFRA 158.155				
141-1 Honey Bee Acute Contact LD50	TGAI	Yes	438669-02	No
141-2 Honey Bee Toxicity of Residues on Foliage	TGAI	No		No ⁵

¹ Composition: TGAI= Technical Grade of the Active Ingredient TEP= Typical End-Use Product.No.

³ Studies originally waived only on condition that Hydrogen Cyanamide be restricted to use on Desert Grown Grapes in Imperial, Riverside, and San Bernadino Counties in California and Maricopa, Yuma, and Pinal Counties in Arizona only. Studies are required for the additional proposed uses.

⁴ Hydrogen is a plant growth stimulant, phytotoxicity is not expected if applied before budbreak as per label instruction.

⁵ Hydrogen Cyanamide is applied before budbreak when bees are generally not present (January) and precautions for application if bees are present is included on the label.

EEB Files

DP BARCODE: D228813

CASE: 193715 DATA PACKAGE RECORD DATE: 08/14/96
SUBMISSION: S509767 BEAN SHEET Page 1 of 1

*** CASE/SUBMISSION INFORMATION ***

CASE TYPE: REGISTRATION ACTION: 330 TECH-NEW F/F USE AMND
RANKING : 0 POINTS ()
CHEMICALS: 014002 Cyanamide 50.0000%

ID#: 054555-00002 Dormex
COMPANY: 054555 SKW TROSTBERG AG
PRODUCT MANAGER: 23 JOANNE MILLER 703-305-6224 ROOM: CM2 237
PM TEAM REVIEWER: EUGENE WILSON 703-305-6103 ROOM: CM2 245
RECEIVED DATE: 08/05/96 DUE OUT DATE: 02/11/97

*** DATA PACKAGE INFORMATION ***

DP BARCODE: 228813 EXPEDITE: N DATE SENT: 08/14/96 DATE RET.: //
CHEMICAL: 014002 Cyanamide
DP TYPE: 001 Submission Related Data Package
CSF: N LABEL: Y
ASSIGNED TO DATE IN DATE OUT ADMIN DUE DATE: 12/12/96
DIV : EFED 8/14/96 // NEGOT DATE: //
BRAN: EEB 8/14/96 // PROJ DATE: //
SECT: IO // //
REVR: // //
CONTR: // //

*** DATA REVIEW INSTRUCTIONS ***

Please review early life-stage toxicity studies with rainbow trout and the chronic toxicity studies with Daphnia mana, both under flow through conditions. The data are assigned EPA MRID Nos. 44076701 and 44076702. Please determine if other ecological data would be required for the proposed new use sites claimed on the attached label. If there are any questions, do not hesitate to call me at 305-6103. Thanks, Eugene Wilson

*** DATA PACKAGE EVALUATION ***

No evaluation is written for this data package

*** ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION ***

DP BC BRANCH/SECTION DATE OUT DUE BACK INS CSF LABEL

DP BARCODE: D228813

CASE: 193715 DATA PACKAGE RECORD DATE: 08/14/96
SUBMISSION: S509767 BEAN SHEET Page 1 of 1

*** CASE/SUBMISSION INFORMATION ***

CASE TYPE: REGISTRATION ACTION: 330 TECH-NEW F/F USE AMND
RANKING : 0 POINTS ()
CHEMICALS: 014002 Cyanamide 50.0000%

ID#: 054555-00002 Dormex
COMPANY: 054555 SKW TROSTBERG AG
PRODUCT MANAGER: 23 JOANNE MILLER 703-305-6224 ROOM: CM2 237
PM TEAM REVIEWER: EUGENE WILSON 703-305-6103 ROOM: CM2 245
RECEIVED DATE: 08/05/96 DUE OUT DATE: 02/11/97

*** DATA PACKAGE INFORMATION ***

DP BARCODE: 228813 EXPEDITE: N DATE SENT: 08/14/96 DATE RET.: / /
CHEMICAL: 014002 Cyanamide
DP TYPE: 001 Submission Related Data Package

CSF: N LABEL: Y
ASSIGNED TO DATE IN DATE OUT ADMIN DUE DATE: 12/12/96
DIV : EFED 8/14/96 / / NEGOT DATE: / /
BRAN: EEB 8/14/96 / / PROJ DATE: / /
SECT: IO / / / /
REVR : / / / /
CONTR: / / / /

*** DATA REVIEW INSTRUCTIONS ***

Please review early life-stage toxicity studies with rainbow trout and the chronic toxicity studies with Daphnia mana, both under flow through conditions. The data are assigned EPA MRID Nos. 44076701 and 44076702. Please determine if other ecological data would be required for the proposed new use sites claimed on the attached label. If there are any questions, do not hesitate to call me at 305-6103. Thanks, Eugene Wilson

*** DATA PACKAGE EVALUATION ***

No evaluation is written for this data package

*** ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION ***

DP BC BRANCH/SECTION DATE OUT DUE BACK INS CSF LABEL