

US EPA ARCHIVE DOCUMENT

128901  
SHAUGHNESSEY NO.

REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 10/20/83 OUT 12/2/83

FILE OR REG. NO. 352-EUP-RRG

PETITION OR EXP. PERMIT NO. \_\_\_\_\_

DATE OF SUBMISSION 9/9/83

DATE RECEIVED BY HED 10/20/83

RD REQUESTED COMPLETION DATE 1/11/84

EEB ESTIMATED COMPLETION DATE 1/4/84

RD ACTION CODE/TYPE OF REVIEW 710/EUP

TYPE PRODUCT(S): I, D, H, F, N, R, S Herbicide

DATA ACCESSION NO(S). \_\_\_\_\_

PRODUCT MANAGER NO. R. Taylor (25)

PRODUCT NAME(S) DPX-F6025

COMPANY NAME E.I. duPont de Nemours and Co., Inc.

SUBMISSION PURPOSE Proposed EUP for use on soybeans

SHAUGHNESSEY NO.	CHEMICAL & FORMULATION	% A.I.
<u>128901</u>	<u>2-((((4-chloro-6-methoxypyrimidin-2-yl)-aminocarbonyl)-aminosulfonyl))- benzoic acid,</u>	<u>75%</u>
	<u>ethyl ester</u>	

DPX-F6025 DF WEED KILLER

100 Experimental Use Label Information

100.1 Pesticide Use

Herbicide, for selective weed control in soybeans.

100.2 Formulation Information

DPX-F6025 DF Weed Killer is 75% Ethyl 2-((((4-chloro-6-methoxypyrimidine-2-yl)amino)carbonyl)amino)sulfonyl)benzoate. This is 78.1% by weight.

100.3 Application Methods Directions and Rates

DPX-F6025 DF Weed Killer is a dispersible granule formulation that can be applied preemergence, preplant incorporated, or postemergence to soybeans. Application may be by aerial spray or by ground vehicle.

Preemergence and Preplant Incorporated

Requires at least 1/2" of rainfall (or sprinkler irrigation) for activation. May also be activated by incorporation 1 to 3". Maximum rate is 2/3 oz. per acre except in southern states where maximum rate is 2 2/3 oz/acre.

<u>Soil Texture</u>	<u>Organic Matter</u>	<u>Use Rates/Acre</u>	
		<u>Oz. Weed Killer</u>	<u>Lbs a.i.*</u>
Loamy Sand	<0.5%	1/3-2/3	0.016-0.033
Loam/Silt	0.5-4%	2/3-1 1/3	0.033-0.065
Silt/Clay	0.5-4%	1 1/3-2 2/3	0.065-0.130
Silt/Clay	>4%	1 2/3-2 2/3	0.065-0.130

\*Applic. Rate in oz. X 0.78 (% by wt) X 0.0625 lb (one oz.)

Postemergence

DPX-F6025 Weed Killer can be applied through the third trifoliolate at 1/12 to 1/3 oz/acre (0.004 to 0.016 lbs a.i. per acre).

The label suggests tankmixing with various herbicides. See the attached label for details.

100.4 Target Organisms

Weeds, see attached label.

100.5 Precautionary Labeling

Do not apply directly to any body of water. Do not contaminate water by cleaning of equipment or disposal of wastes.

100.6 Proposed EUP Program

100.6.1 Objectives

"The objective of the proposed experimental program is to acquire information supporting the use and subsequent application for a full registration of DPX-6025 on soybeans. This information includes:

- Complete performance data on weeds listed on the proposed label (see Section B).
- Yield and phytotoxicity data on soybeans.
- Data on differing soybean varieties and differing geographic soil conditions.
- Generate samples for additional residue profiling.
- Large plot data.
- Use with commercial equipment for air and ground application.
- Refine application rates and techniques.
- Define crop rotational patterns.
- Data on effect of adverse weather conditions.
- Refine application times.
- Data on use with/without surfactants or fertilizer solutions."

### 100.6.2 Date, Duration

Begin in May, 1984 through 1986; three years.

### 100.6.3 Amount Shipped Geographical Distribution

A total of 1100 lbs active ingredient over 3 years. The proposed use in the following states: AL, AR, DE, FL, GA, IL, IN, IA, KS, KY, LA, MD, MI, MN, MS, MO, NE, NY, NC, OH, OK, SC, TN, TX, and WI.

They are requesting to treat up to 1000 acres (100 pounds active) during the first year, beginning May, 1984; 3000 acres (300 pounds active) during the second year, 1985; and 7000 acres (700 pounds active) during the third year, 1986.

The following table shows specific proposed acreages by state.

TABLE 1. ACRES AND POUNDS OF DPX-F6025 DF

#### EUP - 3 YR. PERIOD

STATE	1984		1985		1986	
	Acres	Pounds ai	Acres	Pounds ai	Acres	Pounds ai
Alabama	50	5	150	15	350	35
Arkansas	50	5	150	15	350	35
Delaware	50	5	150	15	350	35
Florida	10	1	30	3	70	7
Georgia	50	5	150	15	350	35
Illinois	80	8	250	25	550	55
Indiana	50	5	150	15	350	35
Iowa	80	8	250	25	550	55
Kansas	40	4	120	12	280	28
Kentucky	20	2	50	5	150	15
Louisiana	50	5	150	15	350	35
Maryland	10	1	30	3	70	7
Michigan	20	2	50	5	150	15
Minnesota	50	5	150	15	350	35
Mississippi	50	5	150	15	350	35
Missouri	50	5	150	15	350	35
Nebraska	50	5	150	15	350	35
New York	10	1	30	3	70	7
North Carolina	50	5	150	15	350	35
Ohio	50	5	150	15	350	35
Oklahoma	10	1	30	3	70	7
South Carolina	50	5	150	15	350	35
Tennessee	50	5	150	15	350	35
Texas	10	1	30	3	70	7
Wisconsin	10	1	30	3	70	7
	1,000	100	3,000	300	7,000	700

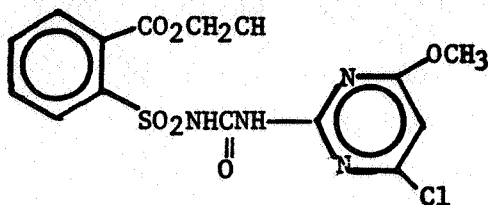
101 Chemical and Physical Properties

The following information is taken directly from Section A of the submission, data acc. no. 072016.

101.1 Chemical Name

2-((((4-chloro-6-methoxypyrimidine-2-yl)aminocarbonyl))-aminosulfonyl))-benzoic acid, ethyl ester.

101.2 Structural Formula



101.4 Trade Name

DPX-F6025

101.5 Molecular Weight

414.8

101.6 Physical State

- o Physical State: Solid
- o Color: Off-white to pale yellow
- o Odor: None
- o Melting Point: 181°C
- o Vapor Pressure at 25°C:  $1.5 \times 10^{-5}$  mm Hg
- o Density: 1.51 g/cc
- o Dissociation Constant: pKa = 4.2 at 25°C
- o Octanol/Water Partition Coefficient: Kow = 1.3
- o pH: 4.4
- o Exotherm Initiation Temperature: 233°C

101.7 Solubility

Solubility in various organic solvents at 25°C:

	<u>g/100 ml</u>
Acetone	7.05
Acetonitrile	3.10
Benzene	0.815
Ethyl Acetate	2.36
Ethyl Alcohol	0.392
n-Hexane	0.006
Methyl Alcohol	0.740
Methylene Chloride	15.3
Xylenes	0.283

Solubility in water at controlled pH:

<u>pH</u>	<u>Solubility (mg/liter)</u>
1.3	1.5
1.9	1.5
2.5	1.5
4.2	4.1
5.0	9.0
5.8	99
6.5	450
7.0	1200

102 Behavior in the Environment

There are no fate data available from EAB, however this submission included some environmental fate data.

Dissociation Constant:  $pK_a = 4.2$  at 25°C  
Octanol/Water Partition Coefficient.  $K_{ow} = 1.3$

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103 Toxicological Properties

103.1 Mammalian Toxicology Data

The following table is taken directly from the submission. The studies have not been validated by Toxicology Branch yet (as of 11/22/83).

TABLE 2. Human and Domestic Animal Safety

<u>STUDY</u>	<u>EXHIBIT NO.</u>	<u>HASKELL LAB REPORT NO.</u>	<u>TEST MATERIAL</u>	<u>RESULTS</u>
Oral LD <sub>50</sub> Test (Rat)	7	HLR 311-83	75DF	>5000 mg/kg (male & female)
Dermal LD <sub>50</sub> Test (Rabbits)	8	HLO 283-83	75DF	>2000 mg/kg
Primary Eye Irritation	9	HLO 272-83	75DF	Mild Irritant
Skin Irritation Test	10	HLO 282-83	75DF	Not a skin irritant.
Dermal Irritation and Sensitization	11	HLO 354-83	75DF	Not an irritant or sensitizer.
Ames Test	12	HLR 459-82	Tech.	Not mutagenic.
Chinese Hamster Ovary Cell Assay	13	HLR 270-83	Tech.	Not mutagenic.
Unscheduled DNA Synthesis	14	HLR 208-83	Tech.	Not mutagenic.
<u>In Vivo</u> Bone Marrow Chromosome Study	15	HLO 340-83	Tech.	Not mutagenic.

Rat 90-Day Feeding and One Generation Reproduction Study: Exhibit 16, HLR 306-83, 9/1/83.

Technical Chemical - Animals were dosed at 0, 100, 2500, or 7500 ppm DPX-F6025 for 90 days. The NOEL for the oral administration was 100 ppm for both male and female. The NOEL for the reproduction study was 2500 ppm.

Teratogenicity Rat: Exhibit 17, HLR 336-83, 9/1/83

Technical Chemical - Pregnant rats were dosed at 0, 30, 150, or 600 mg/kg/day DPX-F6025. The NOEL was 30 mg/kg.



## 103.2 Minimum Requirements

### 103.2.1 Avian Acute Oral LD50

Species: Mallard Duck  
Test Material: DPX-F6025 Technical  
Results: LD<sub>50</sub> greater than 2510 mg/kg  
Category: Core

### 103.2.2 Avian Dietary LC50's

Species: Mallard Duck  
Test Material: DPX-F6025 Technical  
Results: LC<sub>50</sub> greater than 5620 ppm  
Category: Core

Species: Bobwhite Quail  
Test Material: DPX-F6025 Technical  
Results: LC<sub>50</sub> greater than 5620 ppm  
Category: Core

### 103.2.3 Fish Acute LC50's

Species: Rainbow Trout  
Test Material: DPX-F6025 Technical  
Results: LC<sub>50</sub> greater than 8.4 ppm  
Category: Supplemental (solubility a problem)

Species: Bluegill Sunfish  
Test Material: DPX-F6025 Technical  
Results: LC<sub>50</sub> greater than 2 ppm  
Category: Supplemental (solubility a problem)

### 103.2.4 Aquatic Invertebrate

Species: Daphnia Magna  
Test Material: DPX-F6025 Technical  
Results: LC<sub>50</sub> greater than 10 ppm  
Category: Supplemental (solubility a problem)

### 103.3.3 Beneficial Insects

Species: Honey bee  
Test Material: DPX-F6025 Technical  
Results: Topical NEL at 12.5 ug/bee  
Category: Invalid (no protocol information to evaluate study).

104 Hazard Assessment

104.1 Discussion

Approximately 11,000 acres of soybeans in 25 states would be treated over a 3-year period. DPX-F6025 is practically non-toxic to mammals and birds and no more than moderately toxic to fish and aquatic invertebrates.

104.2 Likelihood of Adverse Effects to Non-Target Organisms

Because of the low toxicity and limited acreage, this proposed EUP is not likely to have an adverse effect on non-target organisms.

104.3 Endangered Species

Based on available data, it is unlikely that this proposed EUP would have an adverse effect on endangered species.

104.4 Adequacy of Toxicity Data

The data were adequate to complete this hazard assessment.

105 Conclusions

105.2 Environmental Hazards Labeling

The environmental hazards statement that is on the proposed label is sufficient.

105.3 Data Adequacy Conclusions

The available data were adequate to assess the hazard of this EUP.

The following studies were submitted.

<u>Species</u>	<u>Test Type</u>	<u>Results</u>	<u>Category</u>
Mallard Duck	LD50	>2510 mg/kg	Core
Mallard Duck	LC50	>5620 ppm	Core
Bobwhite Quail	LC50	>5620 ppm	Core
Rainbow Trout	LC50	>8.4 ppm	Suppl.*
Bluegill Sunfish	LC50	>2 ppm	Suppl.*
<u>Daphnia magna</u>	LC50	>10 ppm	Suppl.*
Honey bee	Topical Application	NEL 12.5 ug/bee	Invalid**

\* Solubility a problem.

\*\* Insufficient description of protocol

#### 105.4 Data Requests

While no additional data are needed to support this EUP, additional data would be needed to support full registration of DPX-F6025. At a minimum the following studies are needed:

1. A 96-hour LC<sub>50</sub> with a coldwater fish (rainbow trout);
2. A 96-hour LC<sub>50</sub> with a warmwater fish (bluegill);
3. A 48-hour LC<sub>50</sub> with an aquatic invertebrate (Daphnia magna);
4. An acute contact LD<sub>50</sub> for beneficial insects (honey bee).

Note that on the first three, the problem with the studies was solubility. Insolubility itself does not cause a test to be invalid if adequate measures were taken to get the test material into solution. However, in this case, the Chemical Information included in the submission indicated that DPX-F6025 is soluble at 1200 ppm. This is inconsistent with the solubility problem reported. Those studies should either be reconducted using an appropriate solvent, or new data should be provided showing what measures were taken to get DPX-F6025 into solution and why it did not dissolve.

It is possible that the 4th study, the bee study, could be fulfilled by the one submitted if sufficient description of protocol were provided and if the protocol was acceptable.

The EEB requires certain fate data concerning the chemical's tendency to persist, leach, bioaccumulate, etc. There are no EAB reviews in the EEB files and it may be that additional fate data are still needed from the registrant.

The studies mentioned above are the minimum studies needed to support registration. Further testing may be required depending on the results of toxicity tests and fate data yet to be provided and future proposed uses.

105.6 Recommendations

The EEB has reviewed the proposed EUP request to use DPX-F6025 Weed Killer on soybeans. The available data show that this EUP would cause minimal adverse effects to non-target organisms.

*Daniel Rieder 12/2/83*

Daniel Rieder  
Wildlife Biologist  
Section 2, EEB

*Norman Cook 12.2.83*

Norm Cook, Section Head  
Section 2  
Ecological Effects Branch

*Clayton Bushong 12/2/83*

Clayton Bushong, Branch Chief  
Ecological Effects Branch  
Hazard Evaluation Division

Label - attached to  
DPX-F6025 12/2/83

Petition for Temporary Tolerance  
DPX-F6025

Soybeans

E. I. du Pont de Nemours & Company (Inc.)  
Agricultural Chemicals Department  
Wilmington, Delaware 19898

September, 1983

B

LABELING

Amount, Frequency, and Time of Application

Details are furnished in the enclosed proposed Experimental Use  
Permit dated September, 1983.

P

Classic (DPX-F6025) Reviews

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Pages 13 through 19 are not included in this copy.

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The material not included contains the following type of information:

- Identity of product inert ingredients
  - Identity of product impurities
  - Description of the product manufacturing process
  - Description of product quality control procedures
  - Identity of the source of product ingredients
  - Sales or other commercial/financial information
  - A draft product label
  - The product confidential statement of formula
  - Information about a pending registration action
  - FIFRA registration data
  - The document is a duplicate of page(s) \_\_\_\_\_
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The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

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DATA EVALUATION REPORT

1. CHEMICAL: DPX-F6025
2. FORMULATION: 96% technical assumed, since the test material was identified as H-14823 and for other studies this was characterized as a 96% pure technical product.

Shaughnessy Number:

3. CITATION: Beavers, Joann B. 1983. Acute Oral LD<sub>50</sub>-Mallard Duck with H-14823 (DPX-F6025). An unpublished report prepared by Wildlife International Ltd. for E.I. duPont de Nemours Company. Data Acc. #072016.
4. REVIEWER: Daniel Rieder  
Wildlife Biologist  
EEB/HED
5. REVIEW DATE: 11/17/83
6. TEST TYPE: Avian Acute Oral LD<sub>50</sub>
  - A. Species: Mallard Duck (Anas platyrhynchos)
  - B. Material: DPX-F6025
7. RESULTS: LD<sub>50</sub> greater than 2510 mg/kg.
8. REVIEWERS CONCLUSION: The study fulfills guideline requirements for an avian acute oral toxicity test. The results show that DPX-F6025 is practically non-toxic to birds.

### METHODS

Test Birds: Mallard Ducks; 10 per level, 5 male and 5 female;  
Age 10 months; feed withheld 15 hours before dosing; and housed indoors.

Test Material: 96% pure DPX-F6025; suspended in corn oil;  
doses 398, 631, 1000, 1590, and 2510 mg/kg.

Procedure: Body weights recorded at 0, 3, 7 and 14 days;  
Food consumption measured; Temperature from 65° to 80°F;  
relative humidity from 30% to 80%; Photoperiod 14 hours per day; and untreated control used.

### RESULTS

No mortality occurred in the controls or at any test level. Some regurgitation took place, 2 birds at the 631 mg/kg level and 5 birds each at the 1000 and 2510 mg/kg level.

Body weight and food consumption are presented in Table 1. This table is as it was in the original report.

### REVIEWER'S EVALUATION

This study shows that DPX-F6025 is practically non-toxic to birds when dosed orally. Regurgitation was a problem but only half the birds at levels 1000 and 2510 mg/kg were observed doing so. It is assumed that the rest of the birds received the full measure of toxicant that was administered and survived. It is the reviewer's opinion that the study fulfills the intent of law for determining if a material is acutely toxic to birds.

Body weight gain and feed consumption do not reflect any dose related effects.

### CONCLUSION

Category: Core.



attach to DPX-F6025 12/2/83  
Bobwhite Quail LC50 study DEIR

TABLE 1. BODY WEIGHT AND FEED CONSUMPTION

<u>Material</u>	<u>Dosage</u> mg/kg	<u>Average</u> <u>Weight (g)</u>				<u>Estimated</u> <u>Feed Consumption</u> <u>Per Bird Per Day</u>	
		<u>Day 0</u>	<u>Day 3</u>	<u>Day 7</u>	<u>Day 14</u>	<u>0-7</u> g	<u>8-14</u>
H-14823	398	1109	1122	1141	1147	69	116
	631	1074	1154	1145	1150	97	102
	1000	1136	1180	1173	1197	120	154
	1590	1099	1174	1160	1178	119	151
	2510	1139	1224	1237	1231	110	136
Controls	0	1080	1163	1134	1147	140	143

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DATA EVALUATION REPORT

1. CHEMICAL: DPX-F6025 or H-14823
2. FORMULATION: 96% a.i. technical product.  
Shaughnessy Number:
3. CITATION: Beavers, Joann B. 1983. An eight-day Dietary LC<sub>50</sub> in Bobwhite Quail with H-14823. An unpublished report prepared by Wildlife International Ltd. for E.I. duPont de Nemours and Co.
4. REVIEWER: Daniel Rieder  
Wildlife Biologist  
EEB/HED
5. REVIEW DATE: 11/18/83
6. TEST TYPE: Avian 8-day Dietary
  - A. Species: Bobwhite Quail (Colinus virginianus)
  - B. Material: DPX-F6025
7. RESULTS: LD<sub>50</sub> greater than 5620 ppm.
8. REVIEWER'S CONCLUSION: The study meets guideline requirements for an avian 8-day dietary. It shows that H-14823 or DPX-F6025 is practically non-toxic to upland game birds.

METHODS

The test material, H-14823 is assumed to be 96% pure DPX-F6025. This is based on the fish study reports that identified H-14823 to be a 96% technical product. There were five test levels (562, 1000, 1780, 3160 and 5620 ppm) and a 2% corn oil control. Ten 14-day old birds were tested at each level and 50 birds were used as controls. Neither temperature nor humidity were mentioned. Weight gain and food consumption were recorded. Photoperiod period was 14 hours light per day. The birds were fed the treated food for 5 days then maintained on a basal diet for 3 days.

RESULTS

No mortalities occurred at any test level or in the controls. There was a slight reduction of food consumption at 562, 1000, and 1780 ppm. No weight gain effects were observed.

REVIEWER'S EVALUATION

This study shows that DPX-F6025 or H-14823 is practically non-toxic to birds. The food consumption and weight gain results (see Table 1 & 2) do not reflect a dose related effect.

CONCLUSION

Category: Core.

DATA EVALUATION REPORT

1. CHEMICAL: DPX-F6025 or H-14823
2. FORMULATION: 96% a.i. pure technical.  
Shaughnessy Number:
3. CITATION: Beavers, Joann B. 1983. Eight-day Dietary LC<sub>50</sub> - Mallard Duck with H-14823. An unpublished report prepared by Wildlife International Ltd. for E.I. duPont de Nemours & Company. Data Acc. #072016.
4. REVIEWER: Daniel Rieder  
Wildlife Biologist  
EEB/HED
5. REVIEW DATE: 11/18/83
6. TEST TYPE: Avian 8-day Dietary
  - A. Species: Mallard Duck
  - B. Material: H-14823 (DPX-F6025)
7. RESULTS: The dietary LC<sub>50</sub> is estimated to be greater than 5620 ppm.
8. REVIEWER'S CONCLUSION: The study fulfills guideline requirements for an avian dietary LC<sub>50</sub> for waterfowl. It shows that H-14823 is practically non-toxic to waterfowl.

METHODS

The test material, H-14823 is known to be a 96% pure technical grade of DPX-F6025. Five test levels were used (562, 1000, 1780, 3160 and 5620 ppm) along with a 2% "corn oil" control. The test material was mixed with corn oil and bird food to obtain the desired test levels. This treated food was provided to 10-day old ducklings ad libitum for 5 days. Then the birds were maintained on a basal diet for 3 days.

Temperature was 95°F, photoperiod was 14 hours per day.

Body weights and food consumption were recorded and reported.

RESULTS

No mortality occurred at any level or in the control.

There were some deviations in body weight (see Table 2) but they were not dose related.

REVIEWER'S EVALUATION

This study shows that DPX-F6025 is practically non-toxic to birds. The study does not show that the test material has any effect on weight gain or food consumption.

CONCLUSION

Category: Core.

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attach to  
12/2/83

DPX-F6025 review  
Mallard Duck LCD

TABLE 2 BODY WEIGHT AND FEED CONSUMPTION

Material	Conc. ppm	Average Body Weight (g)			Feed Consumption*		F.C./Bird/Day	
		Day 0	Day 5	Day 8	Days 0-5	Days 6-8	Days 0-5	Days 6-8
H-14823	562	156	255	348	2560	1959	51	65
	1000	161	270	373	2717	2206	54	74
	1780	163	263	369	2646	2308	53	77
	3160	167	286	391	2893	2490	58	83
	5620	159	250	350	2399	2219	48	74
CONTROLS	0	151	254	351	2813	2065	56	69
	0	165	260	358	2826	2126	57	71
	0	164	264	372	2801	2138	56	71
	0	161	256	356	2680	2059	54	69
	0	154	264	369	2869	2257	57	75

DATA EVALUATION REPORT

1. CHEMICAL: DPX-F6025
2. FORMULATION: 96% pure technical.  
Shaughnessy Number:
3. CITATION: Hall, Charles L. 1983. The 96-hour Acute Toxicity of DPX-F6025 to Bluegill Sunfish. An unpublished report prepared by Haskell Laboratories for E.I. duPont de Nemours and Co., Inc. Data Acc. #072016.
4. REVIEWER: Daniel Rieder  
Wildlife Biologist  
EEB/HED
5. REVIEW DATE: 11/16/83
6. TEST TYPE: Warmwater 96-hour LC<sub>50</sub>
  - A. Species: Bluegill sunfish
  - B. Material: 96% pure DPX-F6025
7. RESULTS: The reported LC<sub>50</sub> was greater than 50 ppm. However, there was a problem with solubility so the test material precipitated out at 10 ppm and higher.
8. REVIEWER'S CONCLUSION: The study was scientifically sound but does not fulfill guideline requirements because of the solubility problem. The study does provide useful data and shows DPX-F6025 is not acutely toxic to warmwater fish at 2 ppm (the next lower concentration from 10 ppm).

### METHOD

This 96-hour LC<sub>50</sub> test was conducted using 96% technical DPX-F6025 and rainbow trout. The fish were 3.1 cm long and weighed 0.54 g. The test containers were 5 1/2 gallon glass aquaria holding 15 liters of well water. Ten fish were tested per level in a control, solvent control and 5 test levels (0.1, 0.5, 2, 10 and 50 ppm). The solvent was DMF. Test temperature was 22°C, the solution was not aerated, photoperiod was 16 hours of light per day. DO and pH were measured in the control, low, medium and high test containers at the beginning of the test and a 48-hour intervals.

### RESULTS

DO and pH were at acceptable levels. No mortality occurred at any level. There was visible precipitation of the test material in the 10 ppm test level and higher.

### REVIEWER'S EVALUATION

The test followed acceptable protocol, but the problem with keeping the test material in solution means the LC<sub>50</sub> will be considered greater than 2 ppm, rather than greater than 50 ppm as reported.

The low solubility (i.e., less than 10 ppm) is inconsistent with the product chemistry data submitted, which indicates that DPX-F6025 is soluble to 1200 mg/liters in water at pH 7.

### CONCLUSION

Category: Supplemental.

Rationale: First, no LC<sub>50</sub> was calculated because no mortality occurred. Second, the test material formed a precipitate at 10 ppm and higher.

Repairability: This test could be upgraded to core if it was determined that DPX-F6025 really is not soluble at greater than 10 ppm no matter what solvent is used.

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DATA EVALUATION REPORT

1. CHEMICAL: DPX-F6025
2. FORMULATION: 96% pure technical.  
Shaughnessy Number:
3. CITATION: Hall, Charles L. 1983. The 96-hour LC<sub>50</sub> to Rainbow Trout. An unpublished report prepared by Haskell Laboratory for E.I. duPont de Nemours and Co., Inc. Acc. #072016
4. REVIEWER: Daniel Rieder  
Wildlife Biologist  
EEB/HED
5. REVIEW DATE: 11/16/83
6. TEST TYPE: 96-Hour Fish LC<sub>50</sub>
  - A. Species: Rainbow Trout
  - B. Material: 96% pure DPX-F6025
7. RESULTS: The LC<sub>50</sub> was reported to be greater than 50 ppm. However, even with DMF (solvent) the test material precipitated at 12 ppm and higher.
8. REVIEWER'S CONCLUSION: The report was scientifically sound but does not meet guideline requirements. It provides supplemental information and shows that DPX-F6025 is not acutely toxic to fish at 8.4 ppm. The problem is that no LC<sub>50</sub> could be calculated because there was no mortality.

### METHODS

This 96-hour LC<sub>50</sub> test was conducted using 96% technical DPX-F6025 and rainbow trout. The test fish were 4.5 cm (mean standard length) and weighed 1.3 g (mean wet weight). There were ten fish per level.

The test material was dissolved in DMF before testing. There were two controls (water and solvent) and 8 test levels. The highest test level was 50 ppm, but the test material precipitated out of solution at 12 ppm and higher. Test levels were: 4.1; 5.9; 8.4; 12; 17.1; 24.5; 35; and 50 ppm.

The fish were not fed for 48 hours prior to testing. Test containers were not aerated, temperature was maintained at 12°C, and the photoperiod was 16 hours light per day.

DO and pH were measured in the low, medium and high concentrations at 0 hours, 48 hours and 96 hours.

### RESULTS

DO and pH remained at acceptable levels throughout the study.

No mortality occurred at any level.

The test material visibly precipitated out of solution in the test water.

### REVIEWER'S EVALUATION

This study shows that DPX-F6025 is not toxic to fish at its highest solubility level during this study. However, this solubility difficulty does not seem consistent with the "Product Chemistry" data provided with this submission which indicated that DPX-F6025 was soluble in water at pH 7 at 1200 mg/l (1200 ppm).

The results of this test show that the 96-hour LC<sub>50</sub> for coldwater fish is greater than 8.4 ppm.

### CONCLUSION

Category: Supplemental.

Rationale: No LC<sub>50</sub> could be calculated and the test material precipitated out of solution at 12 ppm and higher.

Repairability: This study could be upgraded if it was shown that DPX-F6025 indeed was not soluble at greater than 12 ppm.

DATA EVALUATION REPORT

1. CHEMICAL: DPX-F6025
2. FORMULATION: 96% pure technical  
Shaughnessy Number:
3. CITATION: Hall, Charles L. 1983. The 48-hour toxicity of DPX-F6025 to Daphnia magna. An unpublished report prepared by Haskell Laboratories for E.I. duPont de Nemours and Co., Inc. Data Acc. #072016.
4. REVIEWER: Daniel Rieder  
Wildlife Biologist  
EEB/HED
5. REVIEW DATE: 11/17/83
6. TEST TYPE: 48-hour aquatic invertebrate
  - A. Species: Daphnia magna
  - B. Material: DPX-F6025
7. RESULTS: The study reported an LC<sub>50</sub> greater than 100 ppm, the highest level tested. However that is questionable considering the solubility problems encountered.
8. REVIEWER'S CONCLUSION: The study is scientifically sound but does not fulfill guideline requirements because the test material precipitated out of solution at 40 ppm and higher. It provides useful supplemental data and shows that DPX-F6025 is not a toxic to daphnids at 10 ppm.

### METHODS

Ten daphnids were tested in each 250 ml test beaker. There were two jars per level, a control and solvent control and 5 test concentrations (1, 4, 10, 40 and 100 ppm). DMF was the solvent. The organisms were less than 24 hours old. The test solution was not aerated and temperature was maintained at 20°C, photoperiod was 16 hours per day. DO and pH were measured in the control, low, medium and high test containers at the beginning and end of the test period.

### RESULTS

The DO was between 8.9 and 9.1 throughout the study. The pH was 8.3. No mortality was observed at any level.

A precipitate of the test material formed at the 40 and 100 ppm level.

### REVIEWER'S EVALUATION

The study followed an acceptable protocol. The results show that DPX-F6025 is not acutely toxic to daphnids at 10 ppm. The problem with solubility is inconsistent with the product chemistry data which indicate the solubility of DPX-F6025 in water at 7 pH to be 1200 ppm. No LC<sub>50</sub> could be calculated.

### CONCLUSION

Category: Supplemental

Rationale: The problems with solubility are inconsistent with the product chemistry data and keep this study from being core.

Repairability: This study may be upgraded if the solubility of DPX-F6025 is really found to be as low as these tests show.

DATA EVALUATION REPORT

1. CHEMICAL: DPX-F6025
2. FORMULATION: 96% technical product  
Shaughnessy Number:
3. CITATION: 1983. Honey Bee Toxicity Topical Application.  
A table referenced as Exhibit Number 24 in Data Acc. No. 072016.
4. REVIEWER: Daniel Rieder  
Wildlife Biologist  
EEB/HED
5. REVIEW DATE: 11/21/83
6. TEST TYPE: Beneficial Insects, Topical Application
  - A. Species: Honey Bee
  - B. Material: DPX-F6025
7. RESULTS: No Effect at 12.5 ug/bee.
8. REVIEWER'S CONCLUSION:

This study does not provide any useful information. There is no protocol or detailed results to evaluate. It does not fulfill guideline requirements for a beneficial insects toxicity study.

Category: Invalid.

Repairability: The study could be upgraded if sufficient information concerning the study were provided.