121001
SHAUGHNESSEY NO.

1
REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 8-28-80 OUT 10/3/80

FILE OR REG. NO. _____

PETITION OR EXP. PERMIT NO. 7969-EUP-EU

DATE DIV. RECEIVED 8-25-80

DATE OF SUBMISSION 7-28-80

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

DATA ACCESSION NO(S). _____

PRODUCT MANAGER NO. R. Taylor (25)

PRODUCT NAME(S) Poast Herbicide

COMPANY NAME BASF Wyandotte Corporation

SUBMISSION PURPOSE EUP request for use on soybeans

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.
	2-[1-(ethoxyimino)butyl]-5-[2-(ethylthio)	
	propyl]-3-hydroxy-2-cyclohexen-1-one	20.0%

100.0 Submission Purpose

BASF Wyandotte Corporation is requesting an Experimental Use Permit to evaluate a new postemergence herbicide for the control of annual and perennial grass weeds in soybeans.

100.4 Proposed EUP Program

100.4.1 Objectives

The proposed EUP program is indicated to be designed to continue the investigation of Poast's herbicidal activity and its safety to soybeans.

100.4.2 Duration/Date/Amount

Tests are scheduled for the 1981 growing season. A total of 2,400 lbs. a.i. of Poast herbicide is requested for use on 8,000 acres of soybeans in 30 states.

100.4.3 Application Procedure

Label directions provide the following information on application procedures:

(1) Since all grass crops are sensitive to Poast including sorghum, corn, small grains, rice, and turf, avoid all direct or indirect contact with any grass crop.

(2) Apply Poast graminicide postemergence to actively growing grasses before they exceed the recommended state of growth specified on the label.

(3) Early applications will permit thorough spray coverage and will result in optimum control of grasses. Applications made later than those recommended may require higher rates and may result in unsatisfactory control.

(4) Recommended application rates range from .1 to .5 lb a.i./A depending on grass species to be controlled and stage of growth.

(5) When application is with ground equipment a minimum of 20 gallons of water per broadcast acre with 40 psi pressure is recommended. Water volume is recommended to be increased to at least 40 gallons per broadcast acre and pressure increased to at least 60 psi. if grass foliage is dense.

(6) When application is with air equipment a minimum of 5 gallons of water per broadcast acre is recommended and increased to 10 gallons of water per broadcast acre is recommended and increased to 10 gallons per broadcast acre if grass foliage is dense.

(7) For aerial application to obtain uniform coverage and to avoid drift the following application equipment and practices should be used:

(a) Nozzle height - Maximum of 10 feet above crop.

(b) Nozzle orientation - Nozzles must be oriented so as to discharge at some angle between straight back with the airstream (opposite the direction of travel of the aircraft) and straight down.

(c) Nozzles must not be located further out than three-fourths the distance from the center of the aircraft to the end of the wing or rotor.

(d) Do not apply Poast by aircraft when the wind is blowing at a velocity of 5 mph or greater.

100.4.4 Target Pest

Annual and perennial grasses in soybean fields.

100.4.5 Location Of Applications

Tests are proposed for the following states:

Alabama	Louisiana	North Dakota
Arkansas	Maryland	Ohio
Delaware	Michigan	Pennsylvania
Florida	Minnesota	South Carolina
Georgia	Mississippi	South Dakota
Illinois	Missouri	Tennessee
Indiana	Nebraska	Texas
Iowa	New Jersey	Virginia
Kansas	New York	Wisconsin
Kentucky	North Carolina	Oklahoma

100.4.6 Test Program Description/Features

Tests are proposed for the three major soybean growing regions in the United States (midwest, delta and Atlantic coastal areas) as indicated in section 100.4.5 above. In each region approximately 600 trials are proposed, with an average size of 4 acres per trial, equaling a total acreage of 7,200 for the three regions. An additional 800 acres is proposed for applications to test Poast with Busagran and with Blazer herbicides to evaluate their compatibility, phytotoxicity and weed control.

Several rates are intended to be tested ranging from 0.1 to 0.5 pounds active ingredient per acre to more accurately define the proper use rate under widely ranging growing conditions, cultural practices, grass species and growth stages. In addition, a single application plus a

cultivation will be evaluated and compared to two applications without cultivation, as well as a comparison of efficacy of air vs. ground applications of Poast. Also efficacy in relation to row width of soybeans will be evaluated.

The calculations present on amount of Poast requested and the number of tests planned was not readily clear, therefore BASF Corporation was contacted. In discussions with Mendy Schluter (9/30/80) of BASF she agreed that the 1,800 plus proposed tests were somewhat ambitious, and indicated the information in the submission was, in all probability, incorrect. She believed that one test would most likely test a number of the variables, contrary to what was indicated in the submission. However, exactly how this was planned she did not know. She went on to say the 8,000 acres request was correct; also the maximum proposed acreage per test would be 20 acres.

101.0 Chemical And Physical Properties

101.1 Chemical Name

2-[1-(ethoxyimino)butyl]-5-[2-(ethylthio) propyl]-3-hydroxy-2-cyclohexen-1-one.

101.2 Common Name

Poast Herbicide

101.3 Structural Formula

101.4 -101.6 Information was not available for this review.

102.0 Behavior In The Environment

An Environmental fate review on this chemical was not available for integration into this assessment.

103.0 Toxicological Properties

Species	Test	Results	Mammals
	Mammals		
Rat	Acute Oral LD_{50}	2,676 - 3,125 mg/lg	Not Reviewed
Mouse	Acute Oral LD_{50}	5,600 - 6,500 mg/lg	Not Reviewed
Rabbit	Acute Oral LD_{50}	4,600 mg/lg	Not Reviewed
	Avian Species		
Mallard Duck	Acute Oral LD_{50}	>2,000 mg/kg	Core
Mallard Duck	8-day Dietary LC_{50}	>5,000 ppm	Core
Bobwhite Quail	8-day dietary LC_{50}	>5,000 ppm	Core
	Aquatic Species		
Bluegill Sunfish	LC_{50} (96 hrs)	265.0 mg/l	Core
Rainbow Trout	LC_{50} (96 hrs)	170.0 mg/l	Core
Daphnia magna	LC_{50} (48 hrs)	78.1 mg/l	Core

104.0 Hazard Assessment

At proposed application rates estimated environmental concentrations are well below levels which would cause concern of acute hazard to nontarget species. At the highest proposed use rate of .5 bl a.i./A, estimated concentration of Poast on wildlife food sources in and around soybean fields range from 3.8 to 120 ppm; well below the levels found toxic to nontargets in laboratory tests. (see Section 103.0 above). A similar situation is found for aquatic species; at the maximum proposed use rate, estimated concentration following direct application to a 6 inch layer of water is 367 ppb, well below the 48-hour observed no effect level for the most sensitive aquatic species tested, Daphnia magna, of 32 ppm.

In the absence of an environmental chemistry review on Poast, potential chronic effects can't be assessed. However for this EUP, any potential adverse impacts are mitigated due to the relative small acreage involved for any one test (average size 4 acres, and maximum size of 20 acres) and the limited number of applications for any one test (maximum of 2).

104.12 Endangered Species Consideration.

In conversations with Ray Matheny, EEB's Endangered Species Coordinator, and Norm Cook, EEB's Registration Coordinator, they both felt the proposed EUP with Poast presented little hazard to endangered species. Their conclusions were based mainly on the relatively non-toxic nature of and the limited area of any one test, plus the maximum of only two applications per test.

104.1.3 Adequacy Of Toxicity Data

The following studies are considered adequate to meet EPA data requirements for the registration of Poast at the proposed application rates in this submission:

Mallard eight-day dietary
Bobwhite eight-day dietary
Mallard acute oral
Rainbow 96 hr LC_{50}
Bluegill 96 hr LC_{50}
Aquatic invertebrate LC_{50}

(1) This study is adequate for registration at proposed application rates. However, if it is found necessary to increase rates this study would need to be re-examined. (See data evaluation records for further details.)

107.0 Conclusions

The Ecological Effects Branch has reviewed the proposed EUP for Poast Herbicide and will not object with it being issued provided the experimental label be amended to include a statement indicating the maximum acreage for any one test may not exceed 20 acres. Also it should be noted, that although the six basic studies submitted are adequate to meet data requirements for registration at proposed use rates, at higher use rates the rainbow study would need to be re-evaluated to determine its adequacy.

Ed Fite
Wildlife Biologist
Ed Fite 10/24/80

Norm Cook
Section Head
Norm Cook 10/28/80

Clayton Bushong
Branch Chief
Clayton Bushong 10/28/80

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Data Evaluation Record

1. Chemical: Poast Herbicide
BAS-9052 H
2-[1-ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one.

2. Formulation: BAS 9052 H Technical 97.3%

3. Citation: Beavers, J. B. and R. Fink unpublished. Eight-day dietary LC_{50} Mallard Duck. BAS 9052 H Technical. Final report. Wildlife International Report dated October 31, 1979. Submitted to EPA by BASF Wyandotte Corporation Parsippany, N.J. in support of an EUP to test Poast Herbicide (Reg. No. 7969-EUP-EU) Accession No. 099539.

4. Reviewed by: Ed Fite
Wildlife Biologist
Ecological Effects Branch
Hazard Evaluation Division

5. Date Reviewed: September 23, 1980

6. Test Type: Avian eight-day dietary
Species - Mallard Duck
(Anas platyrhynchos)

7. Reported Results: BAS 9052 H Technical did not cause overt symptoms of toxicity or behavioral abnormalities at the dosage levels tested. There were no mortalities at any dosage level tested nor in the controls.

8. Reviewer's Conclusions: Test is adequate to meet data requirement for registration.

9. Methods and Materials

Procedures used in this test in general followed those recommended by EPA, published in the Federal Register vol. 43, No. 32, July 10, 1978, pp 29696-29741.

Test Parameters

Dates of test	September 19-26, 12979
Source of Birds	Wildlife International
Age	14 days
Temperature	75°F
Relative humidity	not given
Photoperiod	14 hours of light/day
# of birds/conc	10
# of controls	50

10. Results:

Concentrations	Mortality
562	0
1000	0
1780	0
3160	0
5620	0
Control	0

Food consumption and weight gain

Concentration ppm	Average Body Weight Day 1	Day 8	Total Estimated Feed Consumption during Five-day Exposure Period
562	241	435	3410
1000	247	404	3602
1780	250	449	3630
3160	257	444	3735
5620	240	427	3494
Controls*	244.4	457.4	3613

*Average for 5 control groups

11. Reviewer's Evaluation

A. Test Procedures

In general followed those recommended by EPA.

B. Statistical Analysis

Since the LC_{50} was found to in excess than 5,000 ppm no calculated median response level or 95% confidence limits are required.

C. Conclusions

Category - core

121001

Data Evaluation Record

1. Chemical: Poast Herbicide
BAS-9052 H
2-[1-ethoxylmino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one.

2. Formulation: BAS 9052 H Technical 97.3%.

3. Citation: Beavers, J. B. and R. Fink. Unpublished. Eight-day Dietary LC_{50} - Bobwhite Quail BAS 9052 H Technical Final Report. Wildlife International Report dated November 6, 1979. Submitted to EPA by BASF Wyandotte Corporation Parsippany, N.J. in support of an EUP to test Poast Herbicide (Reg. No. 7969-EUP-EU) Accession No. 099539.

4. Reviewed by: Ed Fite
Wildlife Biologist
Ecological Effects
Hazard Evaluation Division

5. Date Reviewed: September 23, 1980

6. Test Type: Avian eight-day dietary LC_{50}
Species - Bobwhite Quail
(Colinus virginianus)

7. Reported Results: BAS 9052 H Technical did not cause overt symptoms of toxicity or behavioral abnormalities at the dosage levels tested. There were no mortalities at any dosage level tested. However there were four mortalities (8%) in controls which was believed to be due to the picking. The LC_{50} is estimated to be greater than 5620 ppm.

8. Reviewer's Conclusions: Test is adequate to meet data requirement for registration.

9. Methods And Materials:

Procedures used in this test in general followed those recommended by EPA, published in the Federal Register vol. 43, No. 32, July 10, 1978, pp. 29696-29741.

Test Parameters

Dates of test	September 21-28, 1979
Source of birds	Wildlife International
Age	14 days
Temperature	100°F
Relative humidity	not given
Photoperiod	14 hour of light per day
# of birds/conc.	10
# of control birds	50

10. Results

Concentrations	Mortality
562	0
1000	0
1780	0
3160	0
5620	0
Controls	4

Food consumption and weight gain

Concentration ppm	Average Body Weight (g)		Total Estimated Feed Consumption during five-day Exposure Period
	Day 1	Day 8	
562	24	41	427
1000	22	38	482
1780	23	38	450
3160	23	40	439
5620	22	39	394
Control*	21.6	35.6	432.8

*Averages for 5 Control groups

11. Reviewer's Evaluation

A. Test Procedures

In general, followed those recommended by EPA.

B. Statistical Analysis

Since the LC_{50} was found to be in excess of 5,000 ppm, no calculated median response level or 95% confidence limits are required.

C. Conclusions

Category - Core.

121001

Data Evaluation Record

1. Chemical: Poast Herbicide - BAS-9052H 2-[1-ethoxyimino) butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one

2. Formulation: Technical 97.3%

3. Citation: Beavers, J.B. and R. Fink. Unpublished. Acute Oral LD_{50} Mallard Duck BAS 9052 H Technical Final Report. Wildlife International Report dated November 7, 1979. Submitted to EPA by BASF Wyandotte Corporation, Agricultural Chemicals Division, Parsippany, N.J. in support of an EUP to test Poast Herbicide (Reg. No. 7969-EUP-EU) Accession Number 099539.

4. Reviewed by: Ed Fite
Wildlife Biologist
Ecological Effects Branch
Hazard Evaluation Division

5. Date Reviewed: September 23, 1980

6. Test Type: Avian acute oral LD_{50}
Species, Mallard Duck
(Anas platyrhynchos)

7. Reported Results: BAS 9052H technical did not cause overt symptoms of toxicity or behavioral abnormalities at the dosage levels tested. There were no mortalitics at any dosage level tested or in the controls. There was, however, a reduction in feed consumption at the 1000 mg/kg and 1590 mg/kg dosage levels. The reduction noted was not believed to be dose related, and no effect was noted on average body weight.

8. Reviewer's Conclusions: Test is adequate to meet data requirement for registration.

9. Methods And Materials:

Procedures used in this test in general followed those recommended by EPA, published in the Federal Register, vol. 43., No. 32, July 10, 1978, pp 29696 - 29741.

Test Parameters

Date of test	September 5-19, 1979
Source of birds	Wildlife International
Age	Mature
Temperature	65-75°F
Relative humidity	30 to 80%
Photoperiod	14 hours of light per day
# of birds/conc	10
# of control birds	10

10. Results

Dosage mg/kg	Mortality
398	0
631	0
1000	0
1590	0
2510	0
Control	0

Food Consumption and weight.

Dosage mg/kg	Average Body Weight Day 1	Day 3	Day 7	Day 14	Estimated Feed Consumption Per Bird Per day 1-7	8-14
398	944	962	968	996	121	141
631	1064	1081	1109	1116	126	149
1000	1013	1026	1030	1058	76	112
1590	1059	1067	1075	1100	86	108
2510	1018	1028	1032	1053	104	126
Controls	1054	1078	1087	1123	97	153

11. Reviewer's Evaluation

A. Test Procedures

In general, followed those recommended by EPA.

B. Statistical Analysis

Since the LC_{50} was found to be in excess of 2,000 mg/kg no calculated median response level or 95% confidence limits are required.

C. Conclusions

Category - core

121001

Data Evaluation Record

1. Chemical: Poast Herbicide, BAS-9052 H 2-[1-(ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one.

2. Formulation: BAS 9052 H Technical (97.3%)

3. Citation:

Seminara, J., A.G. Vilkas, and C. Hutchinson. Unpublished. The Acute Toxicity of BAS 9052 H Technical (97.3%) to the Rainbow Trout, Salmo gairdneri Richardson. Union Carbide Corporation Environmental Services report dated Oct 10, 1979. Submitted to EPA by BASF Wyandotte Corporation, Parsippany, N.J., in support of an EUP to test Poast Herdicide (Reg. No. 7969-EUP-EU) Accession No. 099539.

4. Reviewed By: Ed Fite
Wildlife Biologist
Ecological Effects Branch
Hazard Evaluation Division

5. Date Reviewed: September 24, 1980

6. Test Type: Fish acute LC_{50}
Species - Rainbow Trout
(Salmo gairdneri)

7. Reported Results: The 96 hr. LC_{50} with 95% confidence limits for BAS 9052 H to rainbow trout is 170 (142-204) mg/l. The 96 hour no effect concentration was observed to be 32.0 mg/l.

8. Reviewer's Conclusions: Test meets EPA test standards for registration for a cold water fish species at proposed use rates. If the maximum rate is increased, however, further evaluation of this study is necessary.

9. Methods And Materials

The report indicates that procedures used in this test followed those described in Methods of Acute Toxicity Test with Fish, Macroinvertebrates and Amphibians (Stephan and Chairman, 1975, USEPA Ecol. Res. Ser. 660-13-75-009).

Test Parameters

Temperature	12 -13°C
Total hardness	42 mg/l $CaCO_3$
Alkalinity	30 mg/l $CaCO_3$
PH range	6.59 -7.47
Dissolved Oxygen	8.2 - 3.5 mg/l
Containers	19.6 l glass jars
Water Volume	15 l
No. of organisms/conc.	10
Weight	0.65 (0.40-1.04) g.
Length	44 (40-51) mm
Biological loading	0.43 g/l

10.Results

Concentration mg/l	Mortality 96 hr.
control	0
solvent control	0
18	0
32	0
56	0
100	0
180	6

11. Reviewer's Evaluation

A. Procedures

In general followed those recommended by EPA.

B. Statistical Analysis

The data collected in this test is barely adequate to use in estimating the LC_{50} for this compound to rainbow trout. Neither the moving average nor the probit method can give any statistically sound results because there are less than two concentrations at which the percent dead is between 0 and 100 percent. The binomial test shows that 100 and + infinity can be used as statistically sound conservative 95 percent confidence limits since the actual confidence level associated with these limits is greater than 95 percent. By the binomial test an approximate LC_{50} for this set of data is 160, in agreement with the report value of 170 mg/l estimated by the Spearman-Karber Estimator.

C. Discussion:

Although this test is marginal to estimate the LC_{50} of Poast Herbicide to rainbow trout, it does provide the needed information to help assess potential impacts to nontargets. Therefore the test is acceptable to support registration at the proposed use rates on soybeans. At the maximum use rate of .5 lb ai/A if applied directly to water the estimated concentration would be 367 ppd, nearly 270 times less than the low confidence limits of 100 ppm calculated using the binomial test. In addition the reported no effect level of 32.0 mg/l is 100 times greater than maximum expected environmental concentrations, indicating further that proposed use rates are well below levels that would cause concern for acute hazard to fish.

D. Conclusion

Category - Core

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Data Evaluation Record

1. Chemical: Poast Herbicide, BAS-9052H 2-[1-ethoxyimino)butyl]-5-[2-(ethylthio) propyl]-3-hydroxy-2-cyclohexen-1-one.

2. Formulation: Technical (97.3%)

3. Citation: Seminara, J., A. G. Vilkas, and C. Hutchinson. Unpublished. The Acute Toxicity of Tech BAS 9052 Lot PN-10-1 to the bluegill sunfish, Lepomis macrochirus Rafinesque. Union Carbide Corporation Environmental Services report dated June 30, 1980. Submitted to EPA by BASF Wyandotte Corporation, Parsippany, N.J., in support of an EUP to test Poast Herbicide (Reg. No. 1969-EUP-EU) Accession No 099539.

4. Reviewed by: Ed Fite
Wildlife Biologist
Ecological Effects Branch
Hazard Evaluation Division

5. Date Reviewed: September 24, 1980

6. Test Type: Fish acute LC_{50}
Species - Bluegill Sunfish
(Lepomis macrochirus)

7. Reported Results: The 96 hr. LC_{50} with 95 percent confidence limits of Tech BAS 9052 Lot PN-10-1 to the bluegill sunfish is 265.0 (220.8 - 318.0) mg/l. The no effect concentration during the test period was observed to be 100.0 mg/l.

8. Reviewer's Conclusions: Test meets EPA test standards for registration for a warmwater fish species.

9. Methods and Materials:

The report indicates that procedures used in this test followed those described in Methods of Acute Toxicity Test with Fish, Macroinvertebrates and Amphibians (Stephan and Chairman, 1975, USEPA Ecol. Res. Ser. 660-13-75-009).

Test Parameters

Temperature	20.0 - 22.0°C
Total hardness	38 mg/l $CaCO_3$
Alkalinity	27 mg/l $CaCO_3$
Ph range	7.08 - 7.40
Dissolved Oxygen	6.6 - 9.2 mg/l
Containers	19.6 - liter glass jars
Water volume	15 liters
No. of organisms/Conc.	10
Weight	0.43 g
Length	34 mm
Biological loading	0.29 g/l

10. Results:

Concentration cmg/l	Cumulative Mortality 96 - hr.
Control	0
56.0	0
100.0	0
180.0	0
320.0	8
560.0	100

11. Reviewer's Evaluation:

A. Test Procedures

In general, followed those recommended by EPA.

B. Statistical Analysis

The reported LC_{50} value was estimated by the Spearman-Karber Method giving an LC_{50} of 265 (220.8 - 318.0) mg/l. Analysis of the reported results by EEB's computer program (BASIC program by C. Stephen, EPA Duluth, Minn.), gave 267.0 (180 - 560) mg/l by the binomial test, in good agreement with the report value.

C. Conclusions

Category - Core

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Data Evaluation Record

1. Chemical: Poast Herbicide, BAS-9052H 2-[1-(ethoxyimino) butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one.

2. Formulation: BAS 9052H Technical (97.3%)

3. Citation: Morrissey, A. E., A. G. Vilkas and C. Hutchinson. Unpublished. The Acute Toxicity of BAS 9052 H technical 97.3% Lot No. 23-9051-TA to the water flea Daphnia magna Straus. Unions Carbide Corporation Environmental Services report dated August 22, 1979 Submitted to EPA by BASF Wyandotte Corporation, Parsippany, N.J. in support of an EUP to test Poast Herbicide (Reg. No. 7969-EUP-EU) Accession No. 099539.

4. Reviewed by: Ed Fite
Wildlife Biologist
Ecological Effects Branch
Hazard Evaluation Division

5. Date Reviewed: September 25, 1980

6. Test type: Aquatic Invertebrate LC_{50} Test Species - Daphnia magna.

7. Reported Results: The 48-hour LC_{50} with 85% confidence limits for BAS 9052 H Technical to Daphnia magna is 78.1 (67.790.0) mg/l. The 48 hour no effect level was observed to be 32.0 mg/l.

8. Reviewer's Conclusions: Test meets data requirement for registration.

9. Methods and Materials

The report indicates tha procedures used in this test followed those described in Methods and Acute Toxicity Test with Fish, Macronimvertebrates and Amphibians (Stephan and Chairman, 1975, USEPA Ecol. Res. Ser 660-13-75-009).

Test Parameters

Temperature	21.0°C
Total hardness	210 mg/l $CaCO_3$
Alkalinity	139 mg/l $CaCO_3$
Ph range	7.41 - 8.42
Dissolved Oxygen	8.0-8.4 mg/l
Containers	250 ml glass beakers
Water volume	200 ml
# of organisms/conc.	20
Age	first instar less than 20 hrs old.

10. Results:

Concentration mg/ml	Cumulative Mortality 48 hrs.
Control	0
Solvent Control	0
32.0	0
51.0	15
100.0	85
180.0	95
320.0	100

11. Reviewer's Evaluation

A. Test Procedures

Protocol used in this test in general followed EPA guidelines.

B. Statistical Analysis

Analysis of reported results by EEB's cumputer program (BASIC program by C. Stephen, EPA, Duluth, Minn.) gave the following estimates of the LC_{50}.

Binomal Test
LC_{50} = 71.4
95% C.L. = 51 to 100

Moving Average
LC_{50} = 78.49
95% C.L. = 64.2 to 93.5

Probit Method
LC_{50} = 75.5
95% C.L. = 63.8 to 89.8
Goodness of ft. probability = .37

These estimates are in close agreement with the reported results of 78.1 (67.7 - 90.0) mg/l.

C. Conclusion

Category - core