

DATA EVALUATION RECORD

1. **CHEMICAL:** Pyrazon
Shaughnessey No. 069601
2. **TEST MATERIAL:** Pyrazon Technical, 94.1%
3. **STUDY TYPE:** Freshwater Fish LC50 - Rainbow trout
Species used: Rainbow trout (Salmo gairdneri)
4. **STUDY ID:** Munk, R. 1990. Acute toxicity of isomerenarm (pyrazon) on rainbow trout (Salmo gairdneri RICH.). Conducted by BASF Aktiengesellschaft, Republic of Germany for BASF Corporation, Research Triangle Park, NC. EPA MIRD No. 416098-06.
5. **REVIEWED BY:**

Clyde R. Houseknecht
Wildlife Biologist
EEB/EFED

Signature: *Clyde Houseknecht*
Date: 10/31/90
6. **APPROVED BY:**

Henry T. Craven, Head
Review Section #4
EEB/EFED

Signature: *Henry T. Craven*
Date: 10/6/90
7. **CONCLUSIONS:** This study is scientifically sound and fullfills the guideline requirements. The 96-hour LC50 of pyrazon to rainbow trout was 39 mg/l (95% c.l. 30-64 mg/l) based on mean measured concentrations. The NOEC was 21.5 mg/l. Thus, pyrazon can be described as slightly toxic to rainbow trout.
8. **RECOMMENDATIONS:** N/A

9. **BACKGROUND:** N/A
10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A
11. **MATERIALS AND METHODS:**
- A. Test Animals:** Rainbow trout were obtained from a commercial supplier in the Federal Republic of Germany. They averaged 7.2 cm (range 6.5 - 7.9) cm in length and 3.5 g (range 2.5 - 4.5) in weight. The fish were kept under 16 hours of daylight in a flow-through tank containing tap water that had been filtered through activated carbon. They were acclimated for 14 days prior to testing. Mortality during the entire holding period prior to testing was 1.7%.
- B. Test System:** Ten randomly selected test organisms were placed in each test chamber. The test aquaria had sides of glass and stainless steel frames with measurements of 80 cm x 35 cm x 46 cm. The loading (g. fish/l. test water) was 0.35. Water temperature was maintained at 11 - 12° C. Test organisms were not fed 24 hours before or during the test. The authors do not indicate if aeration was used nor do they specify how oxygen and temperature were measured.
- C. Dosage:** Based on a range finding test, the following nominal concentrations were chosen for this study; 14.7, 21.5, 31.6, 46.4, 68.1, and 100.0 mg/l. Mean measured concentrations were 14.3, 20.8, 30.1, 44.3, 64.3, and 96.9 mg/l, respectively.
- D. Design:** Static, 96-hour LC50 freshwater fish toxicity test.
- E. Statistics:** Probit analysis was used to calculate the LC50.
12. **REPORTED RESULTS:** The 96-hour LC50 was calculated as > 31.6 and < 46.4 mg/l.
13. **STUDY AUTHOR'S CONCLUSION/QUALITY ASSURANCE MEASURES:** This study does not meet the requirements for 40 CFR 160, Good Laboratory Practices. The study was performed in accordance with OECD Guidelines, Paris, 1981.
14. **REVIEWER'S DISCUSSION AND INTERPRETATION OF STUDY RESULTS:**
- A. Test Procedures:** The procedures utilized in this study were in compliance with the ASTM's Standard Practice for Conducting Tests with Fishes, Macroinvertebrates, and Amphibians.
- B. Statistical Analysis:** The EEB reviewer repeated the mortality analysis using Stephan's program for calculation of an LC50. Results were similar to those reported by the author

concentrations for calculation of the LC50. The LC50 calculated by the binomial method is 39 mg/l.

C. Discussion/Results: The results demonstrate that pyrazon is slightly toxic to rainbow trout.

D. Adequacy of the Study:

(1) Classification: Core.

(2) Rationale: N/A

(3) Repairability: N/A

15. COMPLETION OF ONE-LINER: Yes, October 30, 1990.

Shughnessy No. 069601

Chemical Name Pyrazon

Chemical Class _____

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Study/Species/Lab/ Accession # _____ Chemical § a.i

14-Day Single Dose Oral LD50

Species: _____ LD50 = mg/kg (95% C.L.) Contr. Mort.(%)= _____

Lab.: _____ Slope= # Animals/Level= _____ Age(Days)= _____ Sex = _____

Acc. #: _____ 14-Day Dose Level mg/kg/(% Mortality) _____

Comments: _____

14-Day Single Dose Oral LD50

Species: _____ LD50 = mg/kg (95% C.L.) Contr. Mort.(%)= _____

Lab.: _____ Slope= # Animals/Level= _____ Age(Days)= _____ Sex = _____

Acc. #: _____ 14-Day Dose Level mg/kg/(% Mortality) _____

Comments: _____

8-Day Dietary LC50

Species: _____ LC50 = ppm (95% C.L.) Contr. Mort.(%)= _____

Lab.: _____ Slope= # Animals/Level= _____ Age(Days)= _____ Sex = _____

Acc. #: _____ 8-Day Dose Level ppm/(% Mortality) _____

Comments: _____

8-Day Dietary LC50

Species: _____ LC50 = ppm (95% C.L.) Contr. Mort.(%)= _____

Lab.: _____ Slope= # Animals/Level= _____ Age(Days)= _____ Sex = _____

Acc. #: _____ 8-Day Dose Level ppm/(% Mortality) _____

Comments: _____

96-hour LC50

Species: Rainbow trout LC50 = 39 ppm (95% C.L.) Contr. Mort.(%)= 0

Lab: BASF Slope= # Animals/Level= 10 Sol. Contr. Mort.(%)= _____ Temperature = _____

Acc. #: 416098-06 94.1 96-Hour Dose Level pp/(% Mortality) 14.3 (0), 2.8 (0), 30.1 (0), 44.3 (80), 64.3 (100)

Comments: _____ CRH 10/31/90 CORF
96.4(100)

96-hour LC50

Species: _____ LC50 = PP (95% C.L.) Con. Mor(%)= _____ Sol. Con. Mor.(%)= _____

Lab.: _____ Slope= # Animals/Level= _____ Temp.= _____

Acc. #: _____ 96-Hour Dose Level pp/(% Mortality) _____

Comments: _____

48-hour Invertebrate

Species: _____ LC50 = PP (95% C.L.) Con. Mort.(%)= _____ Sol. Con. Mort.(%)= _____

Lab.: _____ Slope= # Animals/Level= _____ Temp.= _____

Acc. #: _____ 96-Hour Dose Level pp/(% Mortality) _____

Comments: _____

pyrazon

CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB. (PERCENT)
96.9	10	10	100	9.765625E-02
64.3	10	10	100	9.765625E-02
44.3	10	8	80	5.46875
30.1	10	0	0	9.765625E-02
20.8	10	0	0	9.765625E-02
14.3	10	0	0	9.765625E-02

THE BINOMIAL TEST SHOWS THAT 30.1 AND 64.3 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 39.22627

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

12F0174/885154
RAINBOW TROUT
(SALMO GAIRDNERI RICH.)

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BASF AKTIENGESELLSCHAFT
DEPARTMENT OF TOXICOLOGY

RESULTS :

NOMINAL CONC. (MG/L)	ANALYTICALLY DETECTED CONCENTRATIONS (MG/L)						
	1 H	4 H	24 H	48 H	72 H	96 H	
14.7	14.18					14.37	14.3
21.5	20.76					20.77	20.8
31.6	30.06					30.24	30.1
46.4	44.32					44.31	44.3
68.1	64.17					64.49	64.3
100.0	96.9					-	96.9
0.0	-					-	-

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