

DATA EVALUATION RECORD

1. **CHEMICAL:** Pyrazon
Shaughnessey No. 069601
2. **TEST MATERIAL:** Pyrazon Technical, 94.1%
3. **STUDY TYPE:** Freshwater Invertebrate - Daphnia
Species used: Daphnia magna
4. **STUDY ID:** Jatzek, 1990. Determination of the acute toxicity of chloridazon (pyrazon) technical Reg. No. 13 033 to the water flea Daphnia magna Straus. Conducted by BASF Aktiengesellschaft, Republic of Germany for BASF Corporation, Research Triangle Park, NC. EPA MIRD No. 416098-07.
5. **REVIEWED BY:**

Clyde R. Houseknecht
Wildlife Biologist
EEB/EFED

Signature: *Clyde Houseknecht*
Date: 11/6/90
6. **APPROVED BY:**

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

Signature: *Henry T. Craven*
Date: 11/6/90
7. **CONCLUSIONS:** This study is scientifically sound and fullfills the guideline requirements. The 48-hour EC50 of pyrazon to Daphnia magna was 131 mg/l (95% c.l. 100-200 mg/l) based on mean measured concentrations. The NOEC was 100 mg/l. Thus, pyrazon can be described as practically nontoxic to Daphnia magna.
8. **RECOMMENDATIONS:** N/A

9. **BACKGROUND:** N/A
10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A
11. **MATERIALS AND METHODS:**
- A. **Test Animals:** Daphnia used in this study were from a culture maintained in the Laboratory fur Umweltanalytik und Okologie of the BASF Ludwigshafen. Prior to the test, they were maintained in reconstituted freshwater and were fed green algae once per day. Test organisms were 2-24 hours of age.
- B. **Test System:** Five randomly selected test organisms were placed in each test chamber. Four aquaria (a total of 20 organisms) were used at each concentration. Test aquaria were constructed of glass and contained 200 ml of reconstituted freshwater. Water temperature was maintained at $20 \pm 1^\circ$ C. Test organisms were maintained on a photoperiod of 16 hours of daylight. The authors do not indicate if aeration was used nor do they specify how oxygen and temperature were measured.
- C. **Dosage:** The following nominal concentrations were chosen for this study; 12.5, 25, 50, 100, and 200 mg/l. Actual concentrations were measured only for the highest, middle, and lowest concentrations. These mean measured concentrations were 202.7, 50.8, and 12.5 mg/l, respectively.
- D. **Design:** Static, 48-hour EC50 freshwater invertebrate toxicity test.
- E. **Statistics:** The Spearman-Kaerber method was used to calculate the EC50.
12. **REPORTED RESULTS:** The 48-hour EC50 was calculated to be 132 mg/l. The NOEC was 100 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 EC50. Results were similar to those reported by the author except for differences resulting from the use of mean measured concentrations for calculation of the EC50. The EC50 calculated by the binomial method is 131 mg/l.

C. Discussion/Results: The results demonstrate that pyrazon is practically nontoxic to Daphnia magna.

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.

Shaughnessy No: 069601

Chemical Name PYRAZON

Chemical Class _____

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Study/Species/Lab/

Chemical

Access # 1
14-Day Single Dose Oral LD50

Results

Reviewer/Date

Validation Status

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: _____

LC50 = PP (95% C.L.) Contr. Mort.(%)= _____

Lab.: _____

Slope= _____ # Animals/Level= _____ Sol. Contr. Mort.(%)= _____
Temperature = _____

Acc. #: _____

96-Hour Dose Level pp/(% Mortality)

Comments: _____

96-hour LC50

Species: _____

LC50 = PP (95% C.L.) Contr. Mort.(%)= _____

Lab.: _____

Slope= _____ # Animals/Level= _____ Sol. Con. Mort.(%)= _____
Temp. = _____

Acc. #: _____

96-Hour Dose Level pp/(% Mortality)

Comments: _____

48-hour Invertebrate

Species: JAPHNIA MAGNUM

LC50 = 131 PPM (95% C.L.) Contr. Mort.(%)= 0

Lab.: BASF

Slope= _____ # Animals/Level= _____ Sol. Con. Mort.(%)= 0

Acc. #: 416098-07

96-Hour Dose Level pp/(% Mortality)

Comments: _____

CRH
10/31/90 CORE

R.S (0), 0.25 (0), 0.50 (0), 1.00 (10), 2.00 (100)

CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB. (PERCENT)
200	20	20	100	9.536742E-05
100	20	2	10	2.012253E-02
50	20	0	0	9.536742E-05
25	20	0	0	9.536742E-05
12.5	20	0	0	9.536742E-05

THE BINOMIAL TEST SHOWS THAT 100 AND 200 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 131.1851

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.

ANALYTICAL RESULTS

Test substance : Chloridazon techn. Reg.-No. 13 033

Analytical method: CP-No. 083

From three concentrations water of a daphnidfree replicate from the beginning and from the end of the study was analysed as well as water from a daphnid containing replicate from the end of the experiment.

No considerable deviations of measured concentrations from the nominal values were found.

calculated nominal conc. (mg/l)	without daphn. 0 h (mg/l)	with daphn. 48 h (mg/l)	without daphn. 48 h (mg/l)
200	204,9	201,7	202,4
50	50,59	50,34	50,98
12,5	12,49	12,47	12,48
control	n o n - d e t e c t a b l e		

Given values are mean values of two measurements.