

## CODING FORMS FOR SRC INDEXING

Microfiche No.	OTS0559661		
New Doc ID	8899000059S	Old Doc ID	8EHQ-1298-14340S
Date Produced	12/14/98	Date Received	12/18/98
		TSCA Section	8E
Submitting Organization	BASF CORP		
Contractor	BASF AKTIENGESELLSCHAFT		
Document Title	INITIAL SUBMISSION: SUMMARY FROM DRAFT REPORT, BAS 505 F [] - EARLY LIFE-STAGE TOXICITY TEST ON THE RAINBOW TROUT, WITH COVER LETTER DATED 12/14/1998 (SANITIZL )		
Chemical Category	SUBSTITUTED BENZYL ETHER (CONFIDENTIAL)		

A 03

BASF Corporation

**BASF**

Certified Mail Z 366 185 116  
Return Receipt Requested

**SANITIZED**

Dec. 14, 1998

8EHQ-1298-143405

98 DEC 18 2M 3:03

RECEIVED  
POST OFFICE

Document Processing Center (TS-790)  
Attention: (8e) Coordinator  
Office of Pollution Prevention and Toxics  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460

**COMPANY SANITIZED**

Ladies and Gentlemen:

Subject: Notice in Accordance to TSCA Section 8(e) - Preliminary results of an early-life stage (ELS) study in fish with a developmental fungicide.

BASF Corporation is submitting preliminary results of an early-life stage (ELS) study in fish with a developmental fungicide (substituted benzyl ether), conducted by BASF Aktiengesellschaft, Ludwigshafen, Germany. Shipments totaling approximately 1.5 kilograms active ingredient have been shipped to the U.S. since 1993.

Attached is a summary of the study from a draft report provided by BASF AG.

Although BASF Corporation does not feel that this information presents a substantial risk to health or environment, it is being submitted under Section 8(e) of TSCA. Any reports or additional information that we receive will be forwarded to the Agency and Material Safety Data Sheets will be updated with this preliminary information.

If you have any questions, please feel free to call me at (734) 324-6207.

Very Truly Yours,

BASF Corporation

*Edward J. Kerfoot*

Edward J. Kerfoot, Ph.D.  
Director, Toxicology and Product Regulations

98 DEC 18 11 3:40

RECEIVED  
ENVIRONMENTAL

8EHQ-98-14340  
889900000595

/Attachment

*MR 13828*

mk-bh1985

**DRAFT**

STUDY TITLE

Test Report

BAS 505 F - Early Life-Stage  
Toxicity Test on the Rainbow Trout  
(Oncorhynchus mykiss WALBAUM 1792)

DATA REQUIREMENT

OECD 210, adopted July 17, 1992 and  
(U.S.) EPA-FIFRA 72-4 (a), 1982

**DRAFT**

AUTHOR

Dr.rer.nat. R. Munk (Study Director)

STUDY COMPLETED ON

....., 1998

PERFORMING LABORATORY

Department of Toxicology of  
BASF Aktiengesellschaft  
D-67056 Ludwigshafen/Rhein, FRG

**DRAFT**

**DRAFT**

LABORATORY PROJECT IDENTIFICATION

52F0360/965081

<p>Dieses Dokument enthält Betriebs- und Geschäftsgeheimnisse der BASF. Es ist Eigentum der BASF und darf nur zu dem von BASF vorgesehenen Zweck verwendet werden. Jede andere oder darüber hinausgehende Verwendung, Verwertung, Weitergabe, Vervielfältigung oder Veröffentlichung bedarf der Einwilligung der BASF.</p> <p>This document contains manufacturing and trade secrets of BASF. It is the property of BASF and may be used only for that purpose for which it was intended by BASF. Every other or additional use, exploitation, reproduction, publication or submission to other parties require the written permission of BASF.</p>
---

Report; Project No.: 52F0360/965081

11

## SUMMARY

The early life-stage toxicity of BAS 505 F on embryos, larvae and young fish of the rainbow trout (*Oncorhynchus mykiss* WALBAUM 1792) is described in this report. The study was conducted by the Laboratory for Wildlife- and Fish Toxicology of the Department of Toxicology of BASF Aktiengesellschaft, 67056 Ludwigshafen, FRG, for a period of 97 days from October 10, 1997 to January 15, 1998, following the OECD 210 and the EPA-FIFRA Guidelines.

The study was performed under flow-through, unaerated conditions with 5 concentrations of test compound and a dilution water control (each comprising four replications). The temperature was maintained generally at 10°C. The dilution water was unchlorinated drinking water obtained from the municipal water works and was adjusted to a hardness of approximately 0.5 mmol/l ( $\Delta$  approx. 50 mg/l CaCO<sub>3</sub>) with deionized water.

Nominal concentrations of the test compound were: 0.0 mg/l (Control); 0.000316; 0.001; 0.00316; 0.01 and 0.0316 mg/l. The concentrations of the test substance were not adjusted for the reported purity of the active ingredient in the test substance.

Mean measured concentrations were (% of nominal):

Control = 0% (see analytical report, Appendix A); 0.000316 mg/l = 105.6%; 0.001 mg/l = 87.2%; 0.00316 mg/l = 106.3%; 0.01 mg/l = 90.1% and 0.0316 mg/l = 101.4% of the nominal values.

The results are based on nominal concentrations.

"Green" eggs and sperm were obtained from a renowned trout breeding farm in Germany. Eggs used in the study were fertilized October 9, 1997 and were placed in the exposure chambers October 10, 1997 approximately 16 hours after fertilization in the BASF laboratory. All embryos appeared to be in good condition at the beginning of the study. The survival rate in the concurrent viability control (mean of 200 embryos) after 14 days was 74%.

Measured and/or determined biological parameters were the mortality of the embryos at the beginning of hatch (day 32), the number of surviving, healthy larvae at the end of hatch (day 39) and termination of swim-up (day 55) and of the young trouts at the conclusion of the study (day 97), time to hatch and swim-up, toxic signs (symptoms), the weight (wet weight) and the total length (from tip of the snout to the end of the caudal fin) of surviving fish.

DRAFT

Report; Project No.: 52F0360/965081

12

The results were as follows:

– Survival

The survival at termination of hatch (days 0 - 39) was nearly completely impaired ( $p \leq 0.01$ ) in the highest dose group (= 0.0316 mg/l). During the development of the young fish from the end of swim-up to the end of the study (days 56 - 97) the survival rate of the young fish in the highest concentration with surviving fish (= 0.01 mg/l) was, compound-related, lower ( $p^1 \leq 0.05$ ).

In conclusion, the highest concentration 0.0316 mg/l killed the embryos nearly quantitatively at hatching and in the second highest concentration (= 0.01 mg/l) the survival of the young fish was moderately impaired.

The NOAEC<sup>2</sup> for survival is 0.00316 mg/l, the LOAEC<sup>3</sup> is 0.01 mg/l.

– Time to hatch and swim-up

The larvae started hatching nearly simultaneously at days 32 - 33 in the four lower concentrations (0.000316 - 0.01 mg/l) and in the control group and the hatch was completed on day 39. In the highest test group (0.0316 mg/l) the surviving 2 individuals hatched on day 36. The onset of swim-up was observed at day 52; the swim-up was completed at day 55 in all groups with surviving larvae. Swim-up occurred nearly simultaneously in all test groups.

– Toxic signs (symptoms) and abnormalities

There were no sublethal effects caused by the test compound in the two lowest concentrations (0.000316 and 0.001 mg/l nominal). In the higher concentrations 0.00316 and 0.01 mg/l there were clear compound-related sublethal effects, concentration - and more or less time - dependent - with their onset and duration.

Signs such as abnormalities of the tail and/or body, swimming in circles as sequela of abnormal tail, narcotic-like state (moribund state?), retarded resorption of yolk sac, untypically extended yolk sac were observed. These signs were also seen sporadically in the control and the three lower concentrations.

In the higher test groups the distribution pattern of these signs increased more or less concentration dependently and they were therefore judged to be compound-related toxic signs.

External abnormalities checked for at the end of the study were single occurrences and are judged not to be compound-related.

<sup>1</sup>) p = probability level

<sup>2</sup>) NOAEC (= no observed adverse effect concentration)

<sup>3</sup>) LOAEC (= lowest observed adverse effect concentration)

Thus, the NOAEC for sublethal effects is 0.001 mg/l, the LOAEC is 0.00316 mg/l.

- Body weight and length

The development of the mean body weight measured at the end of the study was impaired in the two highest concentrations with surviving fish (0.00316 and 0.01 mg/l) at the  $p \leq 0.01$  level. The mean body length, at the end of the study, was lower in the 3 highest concentrations with surviving fish (0.001 mg/l  $p \leq 0.05$ ; 0.00316 and 0.01 mg/l  $p \leq 0.01$ ).

Thus, the NOAEL for the impairment of body weight and length was 0.000316 mg/l, the lowest concentration tested in this study.

The LOAEC for the impairment of body weight and length was 0.001 mg/l.

In conclusion, under the conditions of this study, the overall NOAEL (no observed adverse effect level) was 0.000316 mg/l and the lowest concentration with adverse effects (LOAEC) was 0.001 mg/l.