CODING FORMS FOR SRC INDEXING

Microfiche No.	
OTS0001139	

New Doc ID	Old Doc ID
FYI-OTS-0794-1139	

Date Produced	Date Received	TSCA Section
01/31/78	07/26/94	FYI

Submitting Organization
DOW CHEM CO

Contractor

Document Title
INITIAL SUBMISSION: ACUTE TOXICITY OF PARABIS A AND BISPHENOL A TO THE SHEEPSHEAD MINNOW, CYPRINODON VARIEGATUS WITH COVER LETTER DATED 03/12/84

Chemical Category
PARABIS A; BISPHENOL A

CODING FORM FOR GLOBAL INDEXING

Microfiche No. (7) •		1	No. of Pages	2			
Doc I.D.	FYI-0794.1139	3	Old Doc I.D.	4			
Case No.(s)				5			
Date Produced (6)	6	Date Rec'd (6)	7	Conf. Code •	8		
				N			

Check One: ☐ Publication ☐ Internally Generated ☐ Externally Generated

Pub/Journal Name							9
							9
Author(s)							10
Organ. Name							11
Dept/Div							12
P.O. Box	13	Street No./Name					14
City	15	State	16	Zip	17	Country	18
MID No. (7)	19	D & B NO. (11)					20
Contractor							21
Doc Type	• ___ • ___ • _____ FYI ___ ___ ___						22
Doc Title							23

Chemical Name (300 per name)	25	CAS No. (10)	24

THE DOW CHEMICAL COMPANY

BARSTOW BUILDING
2020 DOW CENTER
MIDLAND, MICHIGAN 48640

March 12, 1984

Mr. Jay McPherson
Dynamac Corporation
11140 Rockville Pike
Rockville, MD 20852

Dear Mr. McPherson:

Enclosed is a copy of the report, "The Acute Toxicity of Parabis A and Bisphenol A to the Sheepshead Minnow, Cyprinodon variegatus" by J. A. Emmitte, which you requested and which was referred to in our submission to the ITC.

If you have any further questions, please let me know.

Sincerely,

Carlos M. Bowman
Regulatory & Legislative Issues
Health & Environmental Sciences
2020 Willard H. Dow Center

eb

Enclosure

R & D REPORT

D-001226

DOW CHEMICAL U.S.A.

CRI NUMBER

LABORATORY REPORT CODE

DATE ISSUED: January 1978

DEPARTMENT: Environmental Services,

LAB. NO. | PROBLEM NO.

TITLE: The Acute Toxicity of Parabis A and Bisphenol A to the Sheepshead Minnow, Cyprinodon variegatus

PAGES IN FULL REPORT

AUTHOR(S): J. A. Emmitte

AUTHOR(S) SIGNATURE(S): J. A. Emmitte

REVIEWER'S SIGNATURE: K D Ryder

This report is: ☐ INTERIM ☒ FINAL and mainly: ☒ NEW ☐ REVIEW

CRI NUMBER

DESCRIPTIVE SUMMARY WITH CONCLUSIONS: (Include in this space references to data books, and to earlier related reports, patents and publications.)

Parabis A (p-p'-Isopropylidenediphenol) and Bisphenol A (4-4'-Isopropylidenediphenol) were tested for their acute toxicity to the sheepshead minnow, Cyprinodon variegatus. Flow-through testing involved the use of a proportional dilutor, Mount and Brungs (1967). The LC_{50} for Parabis A and Bisphenol A is 9.4 ppm and 7.5 ppm, respectively.

DISTRIBUTION: DEPARTMENT FILES
R & D ADMINISTRATION
CENTRAL REPORT INDEX - 5 COPIES
(566 Bldg. - Midland)

Distribution list is continued on attached page.

INTRODUCTION:

Parabis A (p-p'-Isopropylidenediphenol) and Bisphenol A (4-4'-Isopropylidenediphenol) was evaluated for acute toxicity to the sheepshead minnow, Cyprinodon variegatus, using a continuous flow test method. The compounds tested were Dow production samples.

Bisphenol A is manufactured and used for the production of epoxy resin. Parabis A is primarily used for the manufacture of polycarbonate resin.

FISH:

The test fish were collected from the Surfside Beach salt marsh area. Collected specimen were kept in the laboratory for at least 2 weeks prior to testing where the water temperature was maintained at 80° F. The photoperiod was set at 18L:6D. The average length and weight of the sheepshead minnow during the testing program was 3.0 centimeters and 1.3 grams.

MATERIALS AND METHODS:

Stock solutions of Parabis A and Bisphenol A were dissolved in 50 gallons of seawater and mixed in polyethylene drums. The toxicant was then pumped to a proportional dilutor, Mount and Brungs (1967). A screening test was conducted with each compound to establish a range of toxicity and a full scale continuous flow test was then run to determine the 96-hour LC_{50}. Five fish were exposed at each concentration in the preliminary screening, while 10 individuals per concentration were used in the full scale tests. The proportional factor between concentrations was .5. Samples were collected and verified every 24 hours by Liquid Chromatography. The samples were filtered with 0.5 micrometer millipore filters before injection to the Liquid Chromatograph. Identification involved the use of a substrate consisting of Partisil PXS 10-25 ODS. The eluent contained 40% acetonitrile in water. A U.V. detector was used with a wavelength of 280 nanometers.

Dissolved oxygen, pH, temperature, and chlorides were measured throughout the testing program according to Standard Methods (1971).

LETHAL CONCENTRATIONS:

Results are reported in terms of the concentration necessary to produce death to 50% of the individuals (LC_{50}) within the 96-hour exposure period. Log-probit paper was used to calculate percent mortality versus concentration.

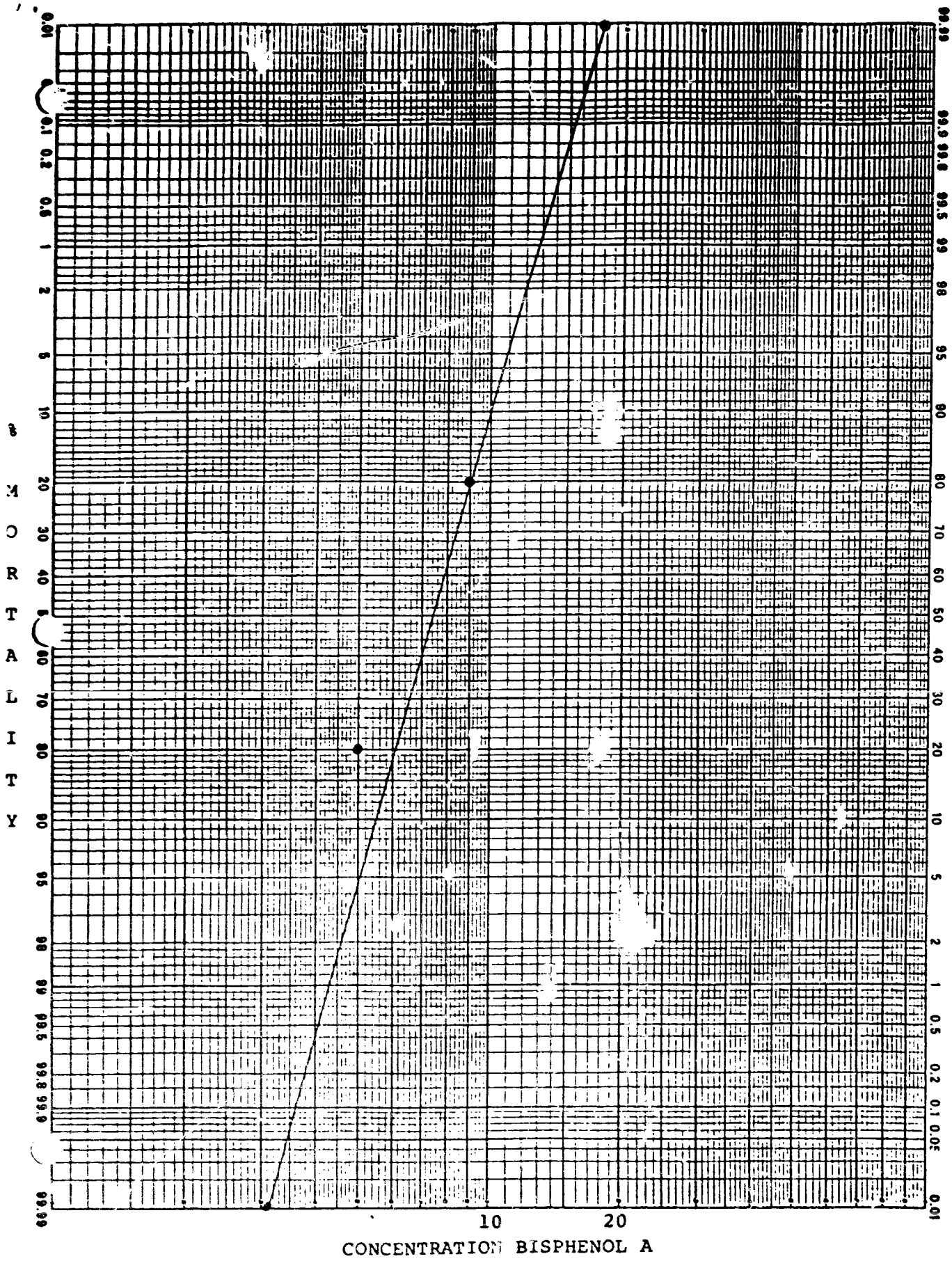
ACKNOWLEDGEMENT:

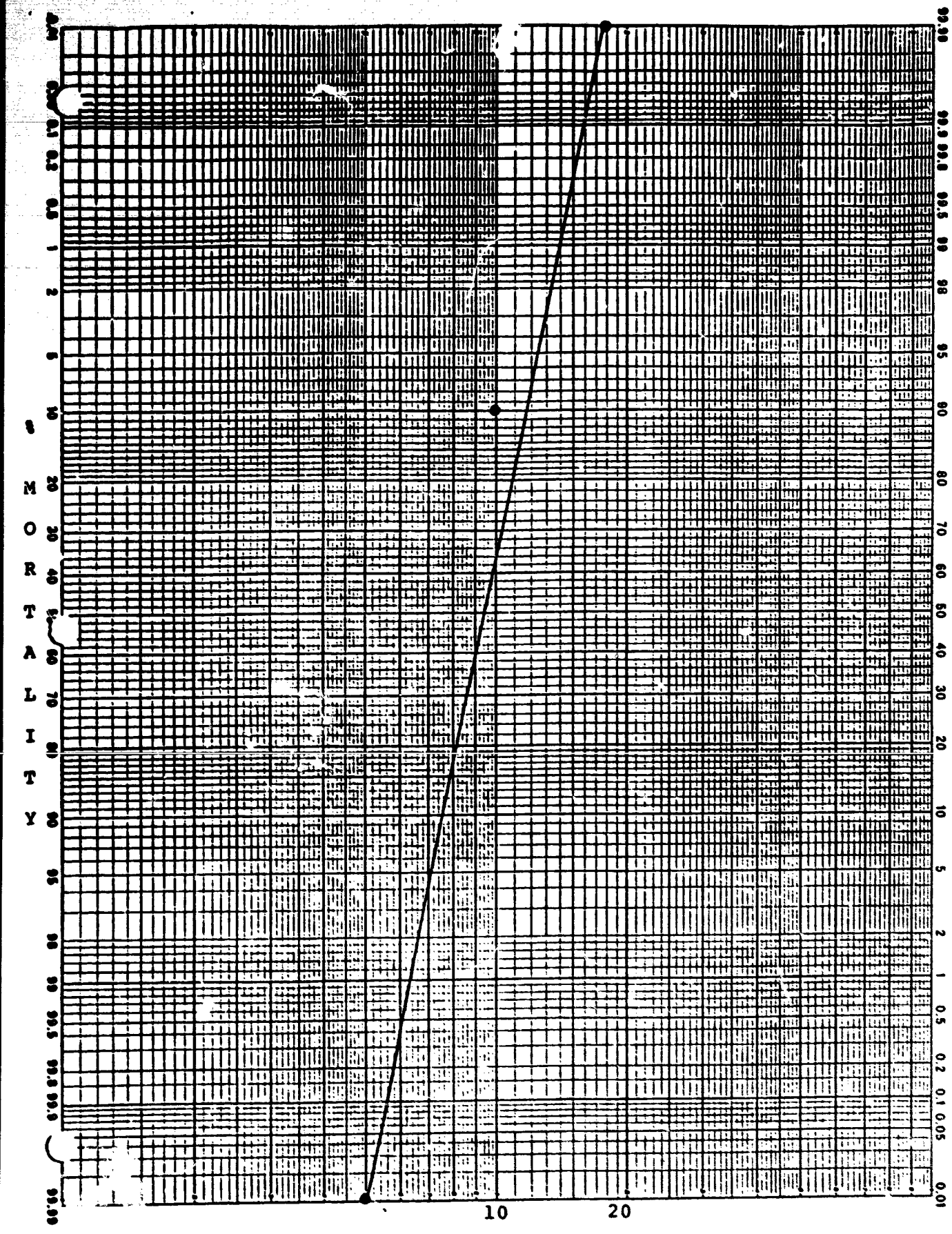
The author wishes to thank A. R. Parrott from Central Laboratory for his analytical support during this study.

REFERENCES

Mount, D.I., and W. A. Brungs. A Simplified Dosing Apparatus for Fish Toxicity Studies, 1967. Water Res. 1:21.

Standard Methods for the Examination of Water and Wastewater. 13th Edition. Washington, D.C.: American Health Association, American Water Works Association, and Water Pollution Control Federation, 1971.


MORTALITY
10
20
CONCENTRATION BISPHENOL A


MORTALITY
99.99
99.9
99.8
99.5
99
98
95
90
80
70
60
50
40
30
20
10
5
2
1
0.5
0.2
0.1
0.05
0.01
10
20
CONCENTRATION PARABIS A