FISH TOXICITY LABORATORY REPORT
Animal Biology Laboratory
EPA-PR, ARC, Beltsville, Md.

Test Number: 678 I.D. Number: MB 283

Product: Agri-Strep EPA Reg. No.: 618-28-AA

Test Method: TSD 1.206 (12/73)

Manufacturer: Merck Chemical Division, Merk Company

Active Ingredients: Streptomycin [redacted] 21.2%
Inert ingredients: 78.8%

Date Product Received: February 19, 1974

Period of Test: March 20 - 24, 1974.

Biologist Conducting Test: Fredrick Pitcher

Test Species: Rainbow trout (Salmo gairdneri)

Condition: Excellent

Average length: 38.7 mm.
Average weight: .48 gm.

Source: Wytheville National Fish Hatchery

Date received: February 13, 1974 Acclimation temperature: 55 °F

Bioassay Conditions:

Test vessel: 5-gallon glass jar. Water volume: 15 l
Fish/vessel: 10 Fish/concentration: 10 Concentrations tested: 3

Water Quality:

Test Water: Demineralized water 1,000,000 ohms resistivity reconstituted to U.S. Fish and Wildlife Service Standards.

Temperature:	55	°F	pH:	7.0	
Alkalinity:	41.04	ppm.	Total hardness:	51.3	ppm.
Calcium hardness:	17.1	ppm.	Dissolved O_2:	6.0	ppm.
Dissolved CO_2:	< 10	ppm.			

Purpose:

To determine the toxicity of Agri-Strep (Reg. no. 618-28 AA) to rainbow trout.

Fish Pretest History:

Upon arrival at the Laboratory, the fish were placed in a plastic swimming pool of approximately 570 gallons capacity. Water in the pool was maintained at a temperature suitable for the species of fish and aerated continuously. The water was recirculated through a sand filter approximately once per hour.

The fish were fed commercial trout chow while at the Laboratory. They were not treated with a prophylactic chemical at anytime.

No tests were made on these fish until they had undergone a minimum 10-day-observation period.

Acclimation:

Three days prior to testing, fish from 35 to 75 mm. in length were sorted from the stock tank and placed in acclimation tanks containing the quality and temperature of water to be used during the test. The fish were not fed after being taken from the stock pool.

Test Procedure:

The handling of the fish and the organization of the tests followed procedures described in Doudoroff (1951), Lennon (1964) and the Fish Pesticide Acute Toxicity Test Method as developed by the Animal Biology Staff, Pesticides Regulation Division, ARS in August 1966. Test results were analyzed and the LC 50 concentrations were computed by use of the Litchfield and Wilcoxon (1949) method.

The bio-assay tests were made in 5-gallon-glass jars containing 15 liters of reconstituted water. Fish were placed in each jar one day before the test chemicals were added. Twenty fish were tested at each concentration. The stock solutions* of chemicals were mixed within 1 hour of the start of the test. The aliquot of chemical necessary to obtain the desired concentration of toxicant was added to the test jars and immediately stirred into the water to ensure an even distribution. All toxicity levels presented in this paper are based on the amount of active ingredients** present in the test solutions unless indicated otherwise.

The reaction of the fish to the toxicant was recorded at elapsed times of 3/4, 1 1/2, 3, 6, 12 and 24 hours. Readings were taken at 24-hour intervals after the first day of the test period. Observations made at non-scheduled intervals were also recorded.

* Direct application.

** Total formulation.

Agri-Strep was added directly to obtain test concentrations of 180, 100 and 56 ppm.

No mortality occurred at any concentration during the 96-hour test.

Conclusion:

Agri-Strep can not be expected to kill rainbow trout at a concentration of 180 ppm formulation within 96 hours of exposure.

Test conducted by,

Fredrick G. Pitcher
Biologist

Test approved by,

John A. McCann
Laboratory Supervisor

FISH TOXICITY LABORATORY REPORT
Animal Biology Laboratory
EPA-PR, ARC, Beltsville, Md.

Test Number: 678 I.D. Number: MB 283

Product: Agri-Strep EPA Reg. No.: 618-28-AA

Manufacturer: Merck Chemical Division, Merk Company Test Method: TSD 1.206 (12/73)

Active Ingredients: Streptomycin [redacted] 21.2%
Inert ingredients: 78.8%

Date Product Received: February 19, 1974

Period of Test: March 20 - 24, 1974.

Biologist Conducting Test: Fredricia Pitcher

Test Species: Rainbow trout (Salmo gairdneri)

Condition: Excellent

Average length: 38.7 mm.
Average weight: .48 gm.

Source: Wytheville National Fish Hatchery

Date received: February 13, 1974 Acclimation temperature: 55 °F

Bioassay Conditions:

Test vessel: 5-gallon glass jar. Water volume: 18 l
Fish/vessel: 10 Fish/concentration: 10 Concentrations tested: 9

Water Quality:

Test Water: Demineralized water 1,000,000 ohms resistivity reconstituted to U.S. Fish and Wildlife Service Standards.

Temperature:	55	°F	pH:	7.0	
Alkalinity:	41.04	ppm.	Total hardness:	51.3	ppm.
Calcium hardness:	17.1	ppm.	Dissolved O_2:	6.0	ppm.
Dissolved CO_2:	< 10	ppm.			

Purpose:

To determine the toxicity of Agri-Strep (Reg. no. 618-28 AA) to rainbow trout.

Fish Pretest History:

Upon arrival at the Laboratory, the fish were placed in a plastic swimming pool of approximately 570 gallons capacity. Water in the pool was maintained at a temperature suitable for the species of fish and aerated continuously. The water was recirculated through a sand filter approximately once per hour.

The fish were fed commercial trout chow while at the Laboratory. They were not treated with a prophylactic chemical at anytime.

No tests were made on these fish until they had undergone a minimum 10-day-observation period.

Acclimation:

Three days prior to testing, fish from 35 to 75 mm. in length were sorted from the stock tank and placed in acclimation tanks containing the quality and temperature of water to be used during the test. The fish were not fed after being taken from the stock pool.

Test Procedure:

The handling of the fish and the organization of the tests followed procedures described in Doudoroff (1951), Lennon (1964) and the Fish Pesticide Acute Toxicity Test Method as developed by the Animal Biology Staff, Pesticides Regulation Division, ARS in August 1966. Test results were analyzed and the LC 50 concentrations were computed by use of the Litchfield and Wilcoxon (1949) method.

The bio-assay tests were made in 5-gallon-glass jars containing 15 liters of reconstituted water. Fish were placed in each jar one day before the test chemicals were added. Twenty fish were tested at each concentration. The stock solutions* of chemicals were mixed within 1 hour of the start of the test. The aliquot of chemical necessary to obtain the desired concentration of toxicant was added to the test jars and immediately stirred into the water to ensure an even distribution. All toxicity levels presented in this paper are based on the amount of active ingredients** present in the test solutions unless indicated otherwise.

The reaction of the fish to the toxicant was recorded at elapsed times of 3/4, 1 1/2, 3, 6, 12 and 24 hours. Readings were taken at 24-hour intervals after the first day of the test period. Observations made at non-scheduled intervals were also recorded.

* Direct application.

** Total formulation.

Agri-Strep was added directly to obtain test concentrations of 180, 100 and 56 ppm.

No mortality occurred at any concentration during the 96-hour test.

Conclusion:

Agri-Strep can not be expected to kill rainbow trout at a concentration of 180 ppm formulation within 96 hours of exposure.

Test conducted by,

Fredrick G. Pitcher
Biologist

Test approved by,

John A. McCann
Laboratory Supervisor

CHEMICAL & BIOLOGICAL INVESTIGATIONS BRANCH 3.15 3.10
Animal Biology Laboratory - Aquatic Section 2.7 - 1.5
Worksheet
~~5.85~~ 4.60
3.10
84
3.94

Test Number _____

Sample Number MB 283 Date Received _____

Trade Name Agri-Strep Date Tested _____

Active Ingredients: _____ Tested By _____

_____

_____

Type Material _____ Solvent Used H_2O

Stock Solutions I Direct II _____

III _____

Remarks _____

Test Species RT Source _____

Condition _____ Length (mm) 38.7 Weight(gm) .48

Bioassay Vessel Size ____ Loading(gm/L) ____ Specimen/Vessel ____ Water Temp. ____

D CO_2 ___ D.O ___ pH ___ Alk. ___ Hard. ___ Conductivity ___

Vessel No.	1	2	3												Remarks
Conc. (ppm)	180	100	56												
Aliquot	2.7 gm	1.5 gm	.84 gm												
0.75 hrs	Direct														
1.5 hrs															
3.0 hrs															
6.0 hrs															
12 hrs															
24 hrs	0	0	0												
48 hrs	0	0	0												
72 hrs	0	0	2/10												
96 hrs	0	0	2/10												

Data fraction= total number dead/number tested per vessel 3-20