

OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

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Chemical Name: Biphenyl Developed by: Chris J. Skalski

CAS # 92-52-4 Data Retrieval Date: 7-20-99

Internal Code # --- Fact Sheet Preparation Date: 3-01-06

ACUTE DATA

<u>SPECIES</u>	<u>EC₅₀/LC₅₀</u> <u>(µg/l)</u>	<u>TEST TYPE^a</u>	<u>DURATION</u> <u>(HOURS)</u>	<u>SMAV^b</u> <u>(µg/l)</u>	<u>GMAV^b</u> <u>(µg/l)</u>	<u>REFERENCE</u> <u>NUMBER</u>
Cladoceran	3,084	S,U	48	360	360	1
<i>Daphnia magna</i>	1,095	S,U	48			2
	1,095	S,U	48			2
	4,700	S,U	48			3
	2,100	S,U	48			4
	360	F,M	48			5
Cladoceran	1,600	S,U	48	1,600	1,600	6
<i>Daphnia pulex</i>						
Bluegill	4,700	S,U	96	4,700	4,700	4
<i>Lepomis macrochirus</i>						
Rainbow Trout	1,500	S,U	96	1,500	1,500	4
<i>Oncorhynchus mykiss</i>						
Fathead Minnow	1,950	F,M	96	1,950	1,950	7
<i>Pimephales promelas</i>	1,450	S,U	96			7
	2,940	S,U	96			7
	3,500	S,U	96			7

^a S = static; F = flow through; M = measured; U = unmeasured.

^b SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.

CHRONIC DATA

<u>SPECIES</u>	<u>CHRONIC VALUE</u> <u>(µg/l)</u>	<u>SMCV^a</u> <u>METHOD</u>	<u>GMCV^a</u> <u>(µg/l)</u>	<u>REFERENCE</u> <u>(µg/l)</u>	<u>NUMBER</u>
Cladoceran	(170-320)	21-day	233	233	5
<i>Daphnia magna</i>	233				

^a SMCV = Species Mean Chronic Value; GMCV = Genus Mean Chronic Value.

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REFERENCES

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CALCULATION OF ACUTE AQUATIC VALUE (AAV)^a

<u>Data Requirement</u> <u>OAC 3745-1-36(A)(1)</u>	<u>SPECIES</u>	<u>GMAV</u> <u>(µg/l)</u>
(a)	Rainbow Trout	1,500
(b)	Bluegill	4,700
(c)	Fathead minnow	1,950
(d)	<i>Daphnia magna</i>	360

Secondary Acute Factor (SAF) = 7.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
 = 360 ÷ 7.0
 = 51.4 = 51 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
 = 51.4 ÷ 2
 = 25.7 = 26 µg/l

CALCULATION OF CHRONIC AQUATIC VALUE (CAV)^a

Experimentally determined Acute-Chronic Ratios (ACRs):

<u>SPECIES</u>	<u>ACUTE VALUE</u> <u>(µg/l)</u>	<u>CHRONIC VALUE</u> <u>(µg/l)</u>	<u>ACUTE-CHRONIC</u> <u>RATIO</u>	<u>SPECIES MEAN</u> <u>ACR</u>
Cladoceran <i>Daphnia magna</i>	360	233	1.545	1.545

Secondary Acute-Chronic Ratio (SACR) = $\sqrt[3]{(1.545)(18)(18)} = 7.940$

Chronic Aquatic Value (CAV) = SAV ÷ SACR
 = 51.4 ÷ 7.940

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= 6.47 = 6.5 µg/l

^aSee Ohio Administrative Code 3745-1-36 effective February 22, 2002.