

OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

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Chemical Name: bis-2-Ethylhexyl phthalate Developed by: Chris J. SkalskiCAS # 117-81-7 Data Retrieval Date: 10-23-97Internal Code # 25 Fact Sheet Preparation Date: 3-01-06ACUTE 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	11,000	S,U	48	11,000	11,000	1
<i>Daphnia magna</i>	>160	S,U	48			2
Amphipod	>320,000	S,U	96	>320,000	>320,000	3
<i>Gammarus pseudolimnaeus</i>	>320,000	S,U	96			4
Channel Catfish	>100,000	S,U	96	>100,000	>100,000	4
<i>Ictalurus punctatus</i>						
Fathead Minnow	>160	S,U	96	>327	>327	2
<i>Pimephales promelas</i>	>670	F,U	96			2
Rainbow Trout	>100,000	S,U	96	>100,000	>100,000	4
<i>Oncorhynchus mykiss</i>	>320	F,U	96			2
Coho Salmon	>100,000	S,U	96	>100,000		4
<i>Oncorhynchus kisutch</i>						
Bluegill	>100,000	S,U	96	>277,000	>277,000	4
<i>Lepomis macrochirus</i>	>770,000	S,U	96			5
Goldfish	>186,000	F,M	96	>188,000	>188,000	6
<i>Carassius auratus</i>	>191,000	F,M	96			6
Stickleback	>300	R,M	96	>300	>300	7
<i>Gasterosteus aculeatus</i>						
Flagfish	>320	R,U	96	>320	>320	8
<i>Jordanella floridae</i>						
Midge	>180	S,U	96	>180	>180	2
<i>Paratanytarsus</i> <i>parthenogenesis</i>						
Midge	>18,000	S,M	48	>18,000	>18,000	9
<i>Chironomus plumosus</i>						

^a S = static; F= flow through; U = unmeasured; M = measured.^b SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.

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CHRONIC DATA

<u>SPECIES</u>	<u>CHRONIC VALUE</u> ($\mu\text{g/l}$)	<u>METHOD</u>	<u>SMCV^a</u> ($\mu\text{g/l}$)	<u>GMCV^a</u> ($\mu\text{g/l}$)	<u>REFERENCE</u> <u>NUMBER</u>
Rainbow Trout <i>Oncorhynchus mykiss</i>	(5-14) 8.37	Early Life Stage	8.37	8.37	10
Cladoceran <i>Daphnia magna</i>	<3	Life Cycle	15,199	107 ^b	11
	(72-158) 107	Early Life Stage			12

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

^b See reference number 11 for justification for using the chronic value of 107 as the SMCV.

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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	>100,000
(b)	Bluegill	>277,000
(c)	Channel Catfish	>100,000
(d)	<i>Daphnia magna</i>	11,000
(e)	Amphipod	>320,000
(f)	Midge	18,000

Secondary Acute Factor (SAF) = 5.2

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
 = 11,000 ÷ 5.2
 = 2,115 = 2,100 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
 = 2,115 ÷ 2
 = 1,058 = 1,100 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>
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Secondary Acute-Chronic Ratio (SACR) = $\sqrt[3]{(18)(18)(18)} = 18$

Chronic Aquatic Value (CAV) = SAV ÷ SACR
 = 2,115 ÷ 18
 = 140 µg/l (Lowered to Rainbow trout SMCV = 8.4 µg/l)

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