

## OHIO EPA AQUATIC LIFE WATER QUALITY SCREENING VALUE FACT SHEET

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Chemical Name: Benzo(a)anthracene Developed by: Chris SkalskiCAS # 56-55-3 Data Retrieval Date: 3-19-03Internal Code # 12 Fact Sheet Preparation Date: 3-01-06Reviewed by: Bob HeitzmanACUTE DATA

<u>SPECIES</u>	<u>EC<sub>50</sub>/LC<sub>50</sub></u> <u>(µg/l)</u>	<u>TEST TYPE<sup>a</sup></u>	<u>DURATION</u> <u>(HOURS)</u>	<u>SMAV<sup>b</sup></u> <u>(µg/l)</u>	<u>GMAV<sup>b</sup></u> <u>(µg/l)</u>	<u>REFERENCE</u> <u>NUMBER</u>
Cladoceran <i>Daphnia magna</i>	1,023	QSAR	48			1
Bluegill <i>Lepomis macrochirus</i>	1,000	S,U	96	1,000	1,000	2
Fathead Minnow <i>Pimephales promelas</i>	1,559	QSAR	96			1
Channel Catfish <i>Ictalurus punctatus</i>	692	QSAR	96			1
Rainbow Trout <i>Oncorhynchus</i>	592	QSAR	96			1

<sup>a</sup> QSAR = Quantitative Structure Activity Relationship.<sup>b</sup> SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.CHRONIC DATA

<u>SPECIES</u>	<u>CHRONIC VALUE</u> <u>(µg/l)</u>	<u>METHOD<sup>a</sup></u>	<u>SMCV<sup>a</sup></u> <u>(µg/l)</u>	<u>GMCV<sup>a</sup></u> <u>(µg/l)</u>	<u>REFERENCE</u> <u>NUMBER</u>
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No Chronic Data Available

<sup>a</sup> SMCV = Species Mean Chronic Value; GMCV = Genus Mean Chronic Value.REFERENCES

- USEPA ASTER database, March 24, 2001.
- Brown, E.R., T. Sinclair, L. Keith, P. Beamer, J.J. Hazada, V. Nair and O. Callaghan. 1977. Aquatic Pollutants and Biologic Effects with Emphasis on Neoplasia, New York Academy of Science, New York.

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## CALCULATION OF ACUTE SCREENING AQUATIC VALUE (AAV)<sup>a</sup>

Data Requirement <u>OAC 3745-1-36(A)(1)</u>	<u>SPECIES</u>	GMAV ( $\mu\text{g/l}$ )
(a)	Rainbow Trout	592
(b)	Channel Catfish	692
(c)	Bluegill	1,000
(d)	<i>Daphnia magna</i>	1,023

Secondary Acute Factor (SAF) = 7.0

Secondary Acute Value (SAV) = Lowest GMAV  $\div$  SAF  
 = 592  $\div$  7.0  
 = 85  $\mu\text{g/l}$

Tier II Acute Aquatic Value (AAV) = SAV  $\div$  2  
 = 85  $\div$  2  
 = 42  $\mu\text{g/l}$

## CALCULATION OF CHRONIC SCREENING AQUATIC VALUE (CAV)<sup>a</sup>

Experimentally determined Acute-Chronic Ratios (ACRs):

<u>SPECIES</u>	<u>ACUTE VALUE</u> ( $\mu\text{g/l}$ )	<u>CHRONIC VALUE</u> ( $\mu\text{g/l}$ )	<u>ACUTE-CHRONIC</u> <u>RATIO</u>	<u>SPECIES MEAN</u> <u>ACR</u>
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No Chronic Data Available

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

Chronic Aquatic Value (CAV) = SAV  $\div$  SACR  
 = 85  $\div$  18

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= 4.7 µg/l

<sup>a</sup>See Ohio Administrative Code 3745-2-04(C) effective October 31, 1997 and 3745-1-36 effective February 22, 2003.

Screening SAV	85 µg/l
Screening AAV	42 µg/l
Screening CAV	4.7 µg/l