

OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

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Chemical Name: Bismuth Developed by: Chris J. Skalski

CAS # 7440-69-9 Data Retrieval Date: 3-10-03

Internal Code # --- Fact Sheet Preparation Date: 3-11-03

Reviewed by: Bob Heitzman

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>
Tubificid Worm <i>Tubifex tubifex</i>	662	R,U	96	662	662	1

^a R = renewal; 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>METHOD</u>	<u>SMCV^a</u> <u>(µg/l)</u>	<u>GMCV^a</u> <u>(µg/l)</u>	<u>REFERENCE</u> <u>NUMBER</u>
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No Chronic Data

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

REFERENCES

1. Khangarot, B.S. 1991. Toxicity of Metals to a Freshwater Tubificid Worm, *Tubifex tubifex* (Muller). Bull. Environ. Contam. Toxicol. 46:906-912.

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CALCULATION OF ACUTE AQUATIC VALUE (AAV)^a

Data Requirement <u>OAC 3745-1-36(A)(1)</u>	<u>SPECIES</u>	GMAV <u>(µg/l)</u>
(b)		
(c)		

Secondary Acute Factor (SAF) =

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
 = ÷
 = µg/l

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

CALCULATION OF CHRONIC AQUATIC VALUE (CAV)^a

Experimentally determined Acute-Chronic Ratios (ACRs):

<u>SPECIES</u>	ACUTE VALUE <u>(µg/l)</u>	CHRONIC VALUE <u>(µg/l)</u>	ACUTE-CHRONIC <u>RATIO</u>	SPECIES MEAN <u>ACR</u>
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No Acute - to - Chronic Ratios Available

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

Chronic Aquatic Value (CAV) = SAV ÷ SACR
 = ÷ 18
 = µg/l

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

SAV	µg/l
AAV	µg/l

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CAV	µg/l
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