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OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

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Chemical Name: StyreneDeveloped by: Chris J. SkalskiCAS # 100-42-5Data Retrieval Date: 10-29-97Internal Code # ---Fact Sheet Preparation Date: 10-30-97ACUTE DATA

<u>REFERENCE NUMBER</u>	<u>EC₅₀/LC₅₀ SPECIES</u>	<u>(µg/l)</u>	<u>DURATION TEST TYPE^a</u>	<u>SMAV^b (HOURS)</u>	<u>GMAV^b (µg/l)</u>	<u>(µg/l)</u>
Cladoceran	23,000	S,U	48	36,837	36,837	1
<i>Daphnia magna</i>	59,000	S,U	48			2
Goldfish	64,740	S,U	96	64,740	64,740	3
<i>Carassius auratus</i>						
Fathead Minnow	29,000	S,U	96	4,020	4,020	4
<i>Pimephales promelas</i>	32,000	S,U	96			4
	4,020	F,M	96			5
	46,410	S,U	96			3
	59,300	S,U	96			3
Guppy	74,830	S,U	96	74,830	74,830	3
<i>Poecilia reticulata</i>						
Bluegill	25,050	S,U	96	25,050	25,050	3
<i>Lepomis macrochirus</i>						
Rainbow Trout	6,593	S,U	96	6,593	6,593	6
<i>Oncorhynchus mykiss</i>						

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

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

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CHRONIC DATA

<u>SPECIES</u>	<u>CHRONIC VALUE</u> <u>($\mu\text{g/l}$)</u>	<u>METHOD</u>	<u>SMCV^a</u> <u>($\mu\text{g/l}$)</u>	<u>GMCV^a</u> <u>($\mu\text{g/l}$)</u>	<u>REFERENCE</u> <u>NUMBER</u>
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None Available

^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	6,593
(b)	Bluegill	25,050
(c)	Fathead Minnow	4,020
(d)	<i>Daphnia magna</i>	36,837

Secondary Acute Factor (SAF) = 7.0

Secondary Acute Value (SAV) = Lowest GMAV + SAF
= 4,020 + 7.0
= 574 = 570 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 574 ÷ 2
= 287 = 290 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>
None Available				

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

Chronic Aquatic Value (CAV) = SAV + SACR
= 574 + 18
= 32 µg/l

^aSee Ohio Administrative Code 3745-1-36 effective October 31, 1997.