

OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

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Chemical Name: Pyrene      Developed by: Chris J. Skalski

CAS # 129-00-0      Data Retrieval Date: 6-22-01

Internal Code # 111      Fact Sheet Preparation Date: 3-01-06

### ACUTE 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>	1,820	S,U	48	1,820	1,820	1

<sup>a</sup> S = static; R = renewal; U = unmeasured; M = measured.

<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</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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None Available

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

### REFERENCES

1. Bobra, A.M., W.Y. Shiu and D. MacKay. 1983. A Predictive Correlation for the Acute Toxicity of Hydrocarbons and Chlorinated Hydrocarbons to the *Water Flea (Daphnia magna)*. Chemosphere 12(9-10):1121-1129.

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Chemical Name: Pyrene      Developed by: Chris J. SkalskiCAS # 129-00-0      Data Retrieval Date: 6-22-01Internal Code # 111      Fact Sheet Preparation Date: 3-01-06CALCULATION OF ACUTE AQUATIC VALUE (AAV)<sup>a</sup>

<u>Data Requirement</u> <u>OAC 3745-1-36(A)(1)</u>	<u>SPECIES</u>	<u>GMAV</u> <u>(µg/l)</u>
(d)	<i>Daphnia magna</i>	1,820

Secondary Acute Factor (SAF) = 21.9

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF  
= 1,820 ÷ 21.9  
= 83 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2  
= 83 ÷ 2  
= 42 µg/l

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

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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None Available

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

Chronic Aquatic Value (CAV) = SAV ÷ SACR  
= 83 ÷ 18  
= 4.6 µg/l

<sup>a</sup>See Ohio Administrative Code 3745-1-36 effective February 22, 2002.