OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: 2,4-Dimethylphenol Developed by: Chris J. Skalski
CAS # 105-67-9 Data Retrieval Date: 9-05-97
Internal Code # 63 Fact Sheet Preparation Date: 3-01-06

ACUTE DATA

SPECIES	EC_{50}/LC_{50} (µg/l)	TEST TYPE[a]	DURATION (HOURS)	SMAV[b] (µg/l)	GMAV[b] (µg/l)	REFERENCE NUMBER
Cladoceran	2,100	S,U	48	2,231	2,231	1
Daphnia magna	2,370	S,U	48			2
Bluegill	7,800	S,U	96	7,800	7,800	3
Lepomis macrochirus						
Fathead Minnow	17,000	F,M	96	16,799	16,799	4
Pimephales promelas	16,600	F,M	96			5

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

CHRONIC DATA

SPECIES	CHRONIC VALUE (µg/l)	METHOD	SMCV[a] (µg/l)	GMCV[a] (µg/l)	REFERENCE NUMBER

No Chronic Data

[a] SMCV = Species Mean Chronic Value; GMCV = Genus Mean Chronic Value.

REFERENCES

1. LeBlanc, G.A. 1980. Acute Toxicity of Priority Pollutants to Water Flea (*Daphnia magna*). Bull. Environ. Contam. Toxicol. 24(5):684-691.

2. Randall, T.L. and P.V. Knopp. 1980. Detoxification of Specific Organic Substances by Wet Oxidation. J. Water Pollut. Control Fed. 52(8):2117-2130.

3. Buccafusco, R..J., S.J. Ells and G.A. LeBlanc. 1981. Acute Toxicity of Priority Pollutants to Bluegill (*Lepomis macrochirus*). Bull. Environ. Contam. Toxicol. 26(4):446-452.

4. Phipps, G.L., G.W. Holcombe and J.T. Fiandt. 1981. Acute Toxicity of Phenol and Substituted Phenols to the Fathead Minnow. Bull. Environ. Contam. Toxicol. 26(5):585-593.

5. Geiger, D.L., C.E. Northcott, D.J. Call and L.T. Brooke. 1985. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Volume 2. Center for Lake Superior Environmental Studies, Univ. of Wisconsin, Superior, WI:326 p.

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CALCULATION OF ACUTE AQUATIC VALUE (AAV)[a]

Data Requirement OAC 3745-1-36(A)(1)	SPECIES	GMAV (µg/l)
(a)	Bluegill	7,800
(b)	Fathead Minnow	16,799
(d)	*Daphnia magna*	2,231

Secondary Acute Factor (SAF) = 8.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 2,231 ÷ 8.0
= 279 = 280 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 279 ÷ 2
= 139 = 140 µg/l

CALCULATION OF CHRONIC AQUATIC VALUE (CAV)[a]

Experimentally determined Acute-Chronic Ratios (ACRs):

SPECIES	ACUTE VALUE (µg/l)	CHRONIC VALUE (µg/l)	ACUTE-CHRONIC RATIO	SPECIES MEAN ACR
None Available				

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

Chronic Aquatic Value (CAV) = SAV ÷ SACR
= 279 ÷ 18
= 15 µg/l

[a] See Ohio Administrative Code 3745-1-36 effective February 22, 2002.

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