OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: 3-Methylphenol Developed by: Chris J. Skalski
CAS # 108-39-4 Data Retrieval Date: 10-29-97
Internal Code # --- 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 *Daphnia magna*	18,800	S,U	48	18,800	>43,250	1
Cladoceran *Daphnia pulicaria*	>99,500	F,M	48	>99,500		2
Fathead Minnow *Pimephales promelas*	55,900	F,M	96	55,900	55,900	2
Rainbow Trout *Oncorhynchus mykiss*	8,900	F,M	96	8,900	8,900	2

[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. Parkhurst, B.R., A.S. Bradshaw, J.L. Forte and G.P. Wright. 1979. An Evaluation of the Acute toxicity to aquatic Biota of a Coal Conversion Effluent and its Major Components. Bull. Environ. Contam. Toxicol. 23(3):349-356.

2. DeGraeve, G.M., D.L. Geiger, J.S. Meyer and H.L. Bergman. 1980. Acute and Embryo-Larval Toxicity of Phenolic Compounds to Aquatic Biota. Arch. Environ. Contam. Toxicol. 9(5):557-568.

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CALCULATION OF ACUTE AQUATIC VALUE (AAV)[a]

Data Requirement OAC 3745-1-36(A)(1)	SPECIES	GMAV (µg/l)
(a)	Rainbow Trout	8,900
(c)	Fathead Minnow	55,900
(d)	*Daphnia spp.*	>43,250

Secondary Acute Factor (SAF) = 8.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 8,900 ÷ 8.0
= 1,112.5 = 1,100 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 1,112.5 ÷ 2
= 556 = 560 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
No Chronic Data				

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

Chronic Aquatic Value (CAV) = SAV ÷ SACR
= 1,112.5 ÷ 18

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= 62 μg/l

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