OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: 2-Methylphenol Developed by: Chris J. Skalski
CAS # 95-48-7 Data Retrieval Date: 2-12-04
Internal Code # --- Fact Sheet Preparation Date: 3-17-04
Reviewed by: Bob Heitzman

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	9,800	S,U	48	14,627	11,838	1
Daphnia magna	8,600	S,U	48			1
	23,800	S,U	48			1
	23,100	S,U	48			1
	15,100	S,U	48			1
	14,000	S,U	48			1
	15,800[d]	S,U	48			2
	15,800[g]	S,U	48			3
Cladoceran	10,800	S,U	48	9,581		1
Daphnia pulex	8,500	S,U	48			1
Cladoceran	>94,000	F,M	48	>94,000[f]		4
Daphnia pulicaria						
Cladoceran	15,500	S,U	48	16,423[c]		1
Daphnia cucullata	17,400	S,U	48			1
Goldfish	23,250	S,U	96	23,250	23,250	5
Carassius auratus						
Catfish	11,200	S,U	96	11,200	11,200	6
Ictalurus punctatus						
Bluegill	11,500	S,U	96	15,459	15,459	7
Lepomis macrochirus	20,780	S,U	96			5
Rainbow Trout	8,400	F,M	96	8,400	8,400	4
Oncorhynchus mykiss	100,000[e]	R,U	96			8
	8,400	F,U	96			9
Fathead Minnow	14,000	F,M	96	15,962	15,962	10
Pimephales promelas	12,550	S,U	96			5
	13,420	S,U	96			5
	18,200	F,M	96			4
	18,200	F,U	96			9
Guppy	18,850	S,U	96	18,850	18,850	5
Poecilia reticulata						

[a] S = static; R = renewal; F= flow through; U = unmeasured; M = measured.
[b] SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.
[c] SMAV not used in calculating the GMAV since it is nonresident in North America.
[d] Data not used in calculating the SMAV since the test organisms were fed at initiation of the bioassay.
[e] Data not used in calculating the SMAV since the endpoint was not clearly defined.
[f] Data not used in calculating the GMAV since the SMAV was greater than the SMAVs for other species in the genus by over a factor of ten and since a definitive acute value was not reported though definitive

acute values were available for two other species in this genus.

[g] Duplicate data not used to calculate the SMAV.

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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.

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10. Geiger, D.L., L.T. Brooke and D.J. Call. 1990. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Volume 5. Center for Lake Superior Environmental Studies, Univ. of Wisconsin-Superior, Superior, WI:332 p.

CALCULATION OF ACUTE AQUATIC VALUE (AAV)[a]

Data Requirement OAC 3745-1-36(A)(1)	SPECIES	GMAV (µg/l)
(a)	Rainbow Trout	8,400
(b)	Bluegill	15,459
(c)	Catfish	11,200
(d)	*Daphnia spp.*	11,838

Secondary Acute Factor (SAF) = 7.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 8,400 ÷ 7.0
= 1,200 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 1,200 ÷ 2
= 600 µg/l

CALCULATION OF CHRONIC AQUATIC VALUE (CAV)[a]

Experimentally determined Acute-Chronic Ratios (ACRs):

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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
= 1,200 ÷ 18
= 66.6 = 67 µg/l

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