OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: 1,2-Dichlorobenzene Developed by: Chris J. Skalski
CAS # 95-50-1 Data Retrieval Date: 9-05-97
Internal Code # 49 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	2,400	S,U	48	1,770	1,770	1
Daphnia magna	2,352	S,U	48			2
	2,352	S,U	48			3
	740	S,U	48			4
Bluegill	27,000	S,U	96	12,296	12,296	5
Lepomis macrochirus	5,600	S,U	96			6
Rainbow Trout	1,580	F,M	96	1,595	1,595	7
Oncorhynchus mykiss	1,610	F,M	96			8
Fathead Minnow	57,000	S,M	96	9,470	9,470	9
Pimephales promelas	57,000[c]	S,M	96			10
	57,000[c]	S,M	96			11
	9,470	F,M	96			12
	96,434	R,M	96			13
Guppy	4,792	R,M	96	4,792	4,792	13
Poecilia reticulata						
Midge	12,000	S,M	96	12,000	12,000	7
Tanytarsus dissimilis						

[a] S = static; F= flow through; U = unmeasured; M = measured.
[b] SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.
[c] Duplicate data not used to calculate the SMAV.

CHRONIC DATA

SPECIES	CHRONIC VALUE (µg/l)	METHOD	SMCV[a] (µg/l)	GMCV[a] (µg/l)	REFERENCE NUMBER
Fathead Minnow	1,600-2,500	Early Life Stage	2,000	2,000	14
Pimephales promelas	2,000				

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

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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	1,595
(b)	Bluegill	12,296
(c)	Fathead Minnow	9,470
(d)	*Daphnia magna*	1,770
(f)	Midge	12,000

Secondary Acute Factor (SAF) = 6.1

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 1,595 ÷ 6.1
= 261 = 260 μg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 261 ÷ 2
= 130 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
Fathead Minnow *Pimephales promelas*	9,470	2,000	4.74	4.74

Secondary Acute-Chronic Ratio (SACR) = $\sqrt[3]{(4.74)(18)(18)} = 11.5$

Chronic Aquatic Value (CAV) = SAV ÷ SACR
= 261 ÷ 11.5
= 23 μg/l

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