OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: Chlorobenzene Developed by: Chris J. Skalski
CAS # 108-90-7 Data Retrieval Date: 9-05-97
Internal Code # 32 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	10,700	S,U	48	16,618	16,618	1
Daphnia magna	11,900	S,U	48			1
	13,000	S,U	48			1
	15,400	S,U	48			1
	17,300	S,U	48			1
	20,600	S,U	48			1
	21,300	S,U	48			1
	12,900[c]	S,U	48			1
	17,300[c]	S,U	48			1
	31,000[e]	S,U	48			11
	86,000	S,U	48			2
	5,808	S,U	48			12
	585[d]	S,U	48			13
Cladoceran	7,900	S,U	48	9,933	9,933	1
Ceriodaphnia dubia	7,900	S,U	48			1
	10,400	S,U	48			1
	11,000	S,U	48			1
	11,400	S,U	48			1
	11,800	S,U	48			1
	8,900[c]	S,U	48			1
	11,100[c]	S,U	48			1
	47,000[e]	S,U	48			11
Fathead Minnow	29,120	S,U	96	11,407	11,407	3
Pimephales promelas	33,930	S,U	96			3
	33,930	S,U	96			3
	22,200	S,U	96			8
	22,300	S,U	96			8
	35,400	S,U	96			8
	7,700	F,M	96			9
	16,900	F,M	96			10

[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.
[d] Data not used to calculate the SMAV since it varied from the other data for this species by over a factor of 10.
[e] Data not used to calculate the SMAV because the test organisms were fed.

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Guppy *Poecilia reticulata*	45,530	S,U	96	45 ,530	45,530	3
Goldfish	51,620	S,U	96	51,620	51,620	3
Carassius auratus	2,370[c]	F,M	96			14
	3,480[c]	F,M	96			14
Rainbow Trout	4,700	F,M	96	5,921	5,921	6
Oncorhynchus mykiss	7,460	F,M	96			7
Bluegill	24,000	S,U	96	7,400	7,400	3
Lepomis macrochirus	16,000	S,U	96			4
	4,500	S,M	96			5
	7,400	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.
[c] Data not used to calculate the SMAV because the test was conducted as an embryo-larval test lasting 8 days.

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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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CALCULATION OF ACUTE AQUATIC VALUE (AAV)[a]

Data Requirement OAC 3745-1-36(A)(1)	SPECIES	GMAV (μg/l)
(a)	Rainbow Trout	5,921
(b)	Bluegill	7,400
(c)	Fathead Minnow	11,407
(d)	*Ceriodaphnia dubia*	9,933

Secondary Acute Factor (SAF) = 7.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 5,921 ÷ 7.0
= 846 = 850 μg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 846 ÷ 2
= 423 = 420 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
= 846 ÷ 18
= 47 μg/l

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