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TIER II ACUTE AND CHRONIC AQUATIC LIFE VALUES FOR TRICHLOROETHYLENE

Standard:

The procedures described in the Tier II methodology indicate that, except possibly where a locally important species is very sensitive, aquatic organisms should not be affected unacceptably if the four (4) day average concentration of trichloroethylene does not exceed 260 µg/L more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 2,300 µg/L more than once every three (3) years on the average.

Calculations:

Acute Aquatic Life:

SAV = lowest GMAV/SAF

Lowest GMAV = 24,000 µg/L
SAF = 5.2

SAV = 24,000/5.2 = 4,615 µg/L

SMC = SAV/2 = 4,615/2 = **2,300 µg/L**

Chronic Aquatic Life:

SCV = SAV/SACR

SACR = 18

SCV = 4,615/18 = **260 µg/L**

Notes:

NONE

Table 1. GMAVs and SMAVs for trichloroethylene

Genus Mean Acute Value (µg/L)	Species	Species Mean Acute Value (µg/L)	Acute-Chronic Ratio	Reference Number
42,365	Fathead Minnow *Pimephales promelas*	40,700		1
	Fathead Minnow *Pimephales promelas*	44,100		7
45,000	Bluegill *Lepomis macrochirus*	45,000		2
56,684	Cladoceran *Daphnia magna*	97,000		3
46,820	Cladoceran *Daphnia magna*	42,000		3
	Cladoceran *Daphnia magna*	56,000		3
	Cladoceran *Daphnia magna*	18,000		4
	Cladoceran *Daphnia pulex*	45,000		3
	Cladoceran *Daphnia cucullata*	57,000		3
132,000	Oligochaete *Tubifex* sp.	132,000		5
56,000	Snail Lymnaea stagnalis	56,000		5
24,000	Amphipod Gammarus	24,000		5
3,100,000	American Flagfish *Jordanella floridae*	3,100,000		6

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