AL CRIT-00077 -00078 HH CRIT-00127 -00128 BAF CRIT-00774

TIER II ACUTE AND CHRONIC AQUATIC LIFE VALUES FOR ACENAPHTHYLENE

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 phenanthrene does not exceed 0.86 µg/L more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 7.73 µg/L more than once every three (3) years on the average.

Calculations:

Acute Aquatic Life:

SAV = lowest GMAV/SAF

Lowest GMAV = 201 µg/L
SAF = 13.0

SAV = 201/13.0 = 15.46 µg/L

SMC = SAV/2 = 15.46/2 = **7.73 µg/L**

Chronic Aquatic Life:

SCV = SAV/SACR

SACR = 18

SCV = 15.46/18 = **0.86 µg/L**

Notes:

NONE

Table 1. GMAVs and SMAVs for acenaphthylene

Genus Mean Acute Value (µg/L)	Species	Species Mean Acute Value (µg/L)	Acute-Chronic Ratio	Reference Number
201	Cladoceran *Daphnia magna*	201		1
184,000	Fathead Minnow *Pimephales promelas*	184,000		1

References:

1. Gersich, F.M. and M.A. Mayes 1986. Acute toxicity tests with Daphnia magna Straus and Pimephales promelas Rafinesque in support of national pollution discharge elimination permit. Water Res. 20(7): 939-941.

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