

AL - CRIT-00101
-00102

HM CRIT-00161
-00162

BAF = CRIT-00792

TIER II ACUTE AND CHRONIC AQUATIC LIFE VALUES FOR FLUORANTHENE

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 fluoranthene does not exceed 33 µg/L more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 154 µg/L more than once every three (3) years on the average.

Calculations:

Acute Aquatic Life:

$$\text{SAV} = \text{lowest GMAV}/\text{SAF}$$

$$\text{Lowest GMAV} = 4,000 \text{ } \mu\text{g/L}$$

$$\text{SAF} = 13.0$$

$$\text{SAV} = 4,000/13.0 = 307.7 \text{ } \mu\text{g/L}$$

$$\text{SMC} = \text{SAV}/2 = 307.7/2 = \mathbf{154 \text{ } \mu\text{g/L}}$$

Chronic Aquatic Life:

$$\text{SCV} = \text{SAV}/\text{SACR}$$

$$\text{SACR} = 9.32 \text{ (Geometric mean of 18, 18, 2.5)}$$

$$\text{SCV} = 307.7/9.32 = \mathbf{33 \text{ } \mu\text{g/L}}$$

Notes:

NONE

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Table 1. GMAVs and SMAVs for fluoranthene

<u>Genus Mean Acute Value ($\mu\text{g/L}$)</u>	<u>Species</u>	<u>Species Mean Acute Value ($\mu\text{g/L}$)</u>	<u>Acute- Chronic Ratio</u>	<u>Reference Number</u>
-				
4,000	Bluegill <u>Lepomis macrochirus</u>	4,000		1
320,000	Cladoceran <u>Daphnia magna</u>	320,000		2
	Mysid Shrimp <u>Mysidopsis bahia</u>		2.5	3

References:

1. Buccafusco, R.J., S.J. Ells, G.A. LeBlanc 1981. Acute toxicity of priority pollutants to bluegill (Lepomis macrochirus). Bull. Environ. Contam. Toxicol. 26(4): 446-452.
2. LeBlanc, G.A. 1980. Acute toxicity of priority pollutants to water flea (Daphnia magna). Bull. Environ. Contam. Toxicol. 24: 684-691.
3. USEPA 1980. Ambient water quality criteria for fluoranthene. EPA 440/5-80-049.

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