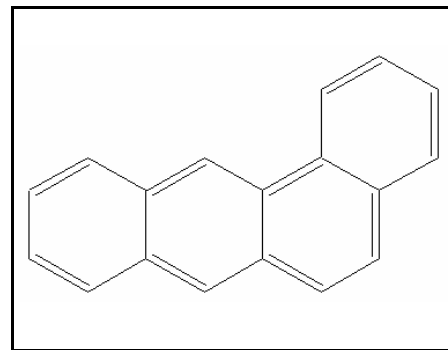




TIER II ACUTE AND CHRONIC AQUATIC LIFE VALUES

BENZO(A)ANTHRACENE

CAS RN: 56-55-3
Water Solubility: 0.0000014 g/100 mL



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 benzo(a)anthracene does not exceed 0.025 µg/L more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 0.23 µg/L more than once every three (3) years on the average.

Calculations

Acute Aquatic Life:

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

$$\text{Lowest GMAV} = 10 \text{ } \mu\text{g/L}$$

$$\text{SAF} = 21.9$$

$$\text{SAV} = 10/21.9 = 0.4566 \text{ } \mu\text{g/L}$$

$$\text{SMC} = \text{SAV}/2 = 0.4566/2 = \mathbf{0.23 \text{ } \mu\text{g/L}}$$

Chronic Aquatic Life:

$$SCC = SAV/SACR$$

$$SACR = 18$$

$$SCC = 0.4566/18 = \mathbf{0.025 \mu g/L}$$

Data

Table 1. GMAVs and SMAVs for benzo(a)anthracene

<u>Genus Mean Acute Value ($\mu g/L$)</u>	<u>Species</u>	<u>Species Mean Acute Value ($\mu g/L$)</u>	<u>Acute- Chronic Ratio</u>	<u>Reference Number</u>
10	Cladoceran <u>Daphnia pulex</u>	10		1

References

1. Trucco, R.G., F.R. Engelhardt, and B. Stacey 1983. Toxicity, accumulation, and clearance of aromatic hydrocarbons in Daphnia pulex. Environ. Pollut. (Series A) 31: 191-202.

Acronyms/Abbreviations

CAS RN	Chemical Abstract Service Registry Number
K _{ow}	Octanol-Water Partition Coefficient
P (superscript)	Predicted value
SAV	Secondary Acute Value
GMAV	Genus Mean Acute Value
SAF	Secondary Acute Factor
SMC	Secondary Maximum Concentration
SCC	Secondary Continuous Concentration
SACR	Secondary Acute-Chronic Ratio
FT	Flow-through
S	Static
U	Unmeasured
M	Measured
EVISTRA	Evaluation and Interpretation of Suitable Test Results in AQUIRE (EPA quality checking method/database)

Revision History

April 1, 1997 Values first developed
August 23, 2000 New search for data. No new studies added.

Contact Information

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