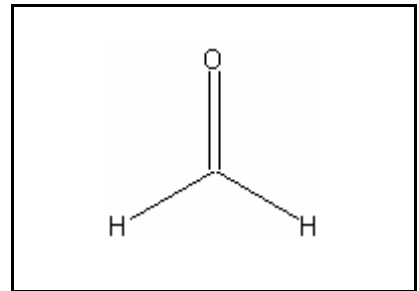




TIER II ACUTE AND CHRONIC AQUATIC LIFE VALUES

FORMALDEHYDE

CAS RN: 50-00-0
Water Solubility: 55 g/100 mL
Log K_{ow} : 4.645^P



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 formaldehyde does not exceed 74 $\mu\text{g/L}$ more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 660 $\mu\text{g/L}$ more than once every three (3) years on the average.

Calculations

Acute Aquatic Life:

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

$$\begin{aligned}\text{Lowest GMAV} &= 29,000 \mu\text{g/L} \\ \text{SAF} &= 21.9\end{aligned}$$

$$\text{SAV} = 29,000/21.9 = 1324 \mu\text{g/L}$$

$$\text{SMC} = \text{SAV}/2 = 1324/2 = \mathbf{660 \mu\text{g/L}}$$

Chronic Aquatic Life:

$$SCV = SAV/SACR$$

$$SACR = 18$$

$$SCV = 1324/18 = \mathbf{74 \mu g/L}$$

Data

Table 1. GMAVs and SMAVs for formaldehyde

<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>
29,000	Cladoceran <u>Daphnia magna</u>	29,000		1

References

1. Janssen, C.R. and G. Persoone 1993. Rapid toxicity screening tests for aquatic biota. 1. Methodology and experiments with *Daphnia magna*. Environ. Toxicol. Chem. 12: 711-717.

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 7, 1999 Values first developed
May 16, 2001 New search for data. No new studies added.

Contact Information

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