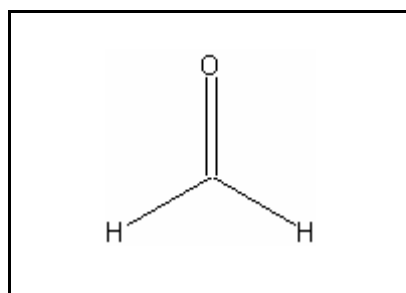




## TIER II ACUTE AND CHRONIC AQUATIC LIFE VALUES

### FORMALDEHYDE

CAS RN: 50-00-0  
Water Solubility: 55 g/100 mL  
Log K<sub>ow</sub>: 4.645<sup>P</sup>



#### 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 µg/L more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 660 µg/L more than once every three (3) years on the average.

#### Calculations

##### Acute Aquatic Life:

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

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

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

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

### 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 (<math>\mu\text{g/L}</math>)</u>	<u>Species</u>	<u>Species Mean Acute Value (<math>\mu\text{g/L}</math>)</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 <sub>ow</sub>	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.

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