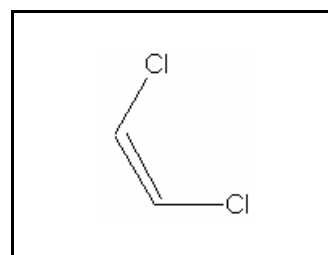




TIER II ACUTE AND CHRONIC AQUATIC LIFE VALUES

CIS-1,2-DICHLOROETHYLENE

CAS RN: 156-59-2
Water Solubility: 0.08 g/100 mL
Log K_{ow}:



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 *cis*-1,2-dichloroethylene does not exceed 620 µg/L more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 5,500 µg/L more than once every three (3) years on the average.

Calculations

Acute Aquatic Life:

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

$$\begin{aligned}\text{Lowest GMAV} &= 144,000 \text{ } \mu\text{g/L} \\ \text{SAF} &= 13.0\end{aligned}$$

$$\text{SAV} = 144,000/13.0 = 11,077 \text{ } \mu\text{g/L}$$

$$\text{SMC} = \text{SAV}/2 = 11,077/2 = 5,500 \text{ } \mu\text{g/L}$$

Chronic Aquatic Life:

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

$$\text{SACR} = 18$$

$$\text{SCV} = 11,077/18.0 = 620 \text{ } \mu\text{g/L}$$

Data

Table 1. GMAVs and SMAVs for *cis*-1,2-dichloroethylene

<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>
341,000	Cladoceran <u>Daphnia magna</u>	341,00		1
144,000	Fathead Minnow <u>Pimephales promelas</u>	144,000		1

References

1. ABC Laboratories 1999. Toxicity of *cis*-1,2-dichloroethylene to the waterflea (*Daphnia magna*) and to the Fathead Minnow (*Pimephales promelas*) determined under static test conditions. ABC Laboratories (Columbia, MO) No. 45638. Report to Michigan DEQ.

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

June 26, 2001 Values first developed

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