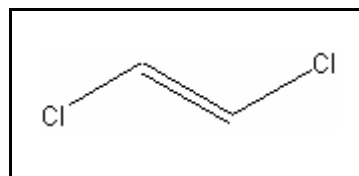




TIER II ACUTE AND CHRONIC AQUATIC LIFE VALUES

1,2-TRANS-DICHLOROETHYLENE

CAS RN: 156-60-5
Water Solubility: 6,300 mg/L
Log K_{ow}: 1.514^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 1,2-*trans*-dichloroethylene does not exceed 560 µg/L more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 5,000 µg/L more than once every three (3) years on the average.

Calculations

Acute Aquatic Life:

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

$$\begin{aligned}\text{Lowest GMAV} &= 220,000 \text{ } \mu\text{g/L} \\ \text{SAF} &= 21.9\end{aligned}$$

$$\text{SAV} = 220,000/21.9 = 10,046 \text{ } \mu\text{g/L}$$

$$\text{SMC} = \text{SAV}/2 = 10,046/2 = \mathbf{5,000 \text{ } \mu\text{g/L}}$$

Chronic Aquatic Life:

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

$$\text{SACR} = 18$$

$$\text{SCV} = 10,046/18 = \mathbf{560 \mu\text{g/L}}$$

Data

Table 1. GMAVs and SMAVs for 1,2-*trans*-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>
220,000	Cladoceran <u>Daphnia magna</u>	220,000		1

References

1. LeBlanc, G.A. 1980. Acute toxicity of priority pollutants to water flea (Daphnia magna). Bull. Environ. Contam. Toxicol. 24(5): 684-691.

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

January 15, 1999 Values first developed
September 19, 2001 New search for data. No studies added.

Contact Information

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