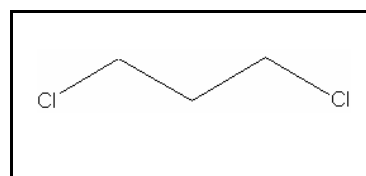




TIER II ACUTE AND CHRONIC AQUATIC LIFE VALUES

1,3-DICHLOROPROPENE

CAS RN: 542-75-6
Water Solubility: <0.01 g/100 mL at 16.5 C
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 1,3-dichloropropene does not exceed 1.9 µg/L more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 17 µg/L more than once every three (3) years on the average.

Calculations

Acute Aquatic Life:

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

$$\begin{aligned}\text{Lowest GMAV} &= 240 \text{ } \mu\text{g/L} \\ \text{SAF} &= 7.0\end{aligned}$$

$$\text{SAV} = 240/7.0 = 34.29 \text{ } \mu\text{g/L}$$

$$\text{SMC} = \text{SAV}/2 = 34.29/2 = \mathbf{17 \text{ } \mu\text{g/L}}$$

Chronic Aquatic Life:

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

$$\text{SACR} = 18$$

$$\text{SCV} = 34.29/18 = \mathbf{1.9 \mu\text{g/L}}$$

Data

Table 1. GMAVs and SMAVs for 1,3-dichloropropene

| <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> |
|--|--|--|---------------------------------|-----------------------------|
| 6,100 | Bluegill <u>Lepomis macrochirus</u> | 6,100 | | 1 |
| 240 | Fathead Minnow <u>Pimephales promelas</u> | 240 | | 2 |
| 6,200 | Cladoceran <u>Daphnia magna</u> | 6,200 | | 3 |
| 5,900 | Rainbow Trout <u>Oncorhynchus mykiss</u> | 5,900 | | 4 |

References

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2. Geiger, D.L., S.H. Poirier, L.T. Brook et al. 1990. Acute Toxicities of Organic Chemicals to Fathead Minnows (Pimephales promelas), Vol. 5. Center for Lake Superior Environmental Studies, University of Wisconsin, Superior, WI. 332 pp.

3. LeBlanc, G.A. 1980. Acute toxicity of priority pollutants to water flea (Daphnia magna). Bull. Environ. Contam. Toxicol. 24: 684-691.
4. Schneider, B. (ed.) 1979. Toxicological Handbook of Mammalian and Aquatic Data. U.S. EPA PB80-19876. Beltsville, MD.

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

December 1, 1998 Values first developed
April 25, 2001 New search for data. No new studies added.

Contact Information

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