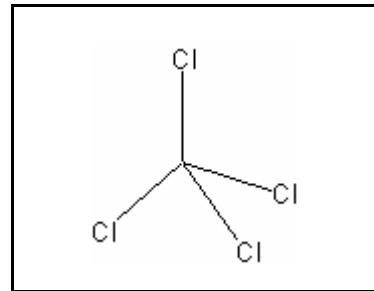




## TIER II ACUTE AND CHRONIC AQUATIC LIFE VALUES

### CARBON TETRACHLORIDE

CAS RN: 75-25-2  
Water Solubility: 0.08048 g/100 mL  
Log  $K_{ow}$ : 2.875



#### 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 carbon tetrachloride does not exceed 40  $\mu\text{g/L}$  more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 360  $\mu\text{g/L}$  more than once every three (3) years on the average.

#### Calculations

Acute Aquatic Life:

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

$$\begin{aligned}\text{Lowest GMAV} &= 5809 \mu\text{g/L} \\ \text{SAF} &= 8.0\end{aligned}$$

$$\text{SAV} = 5809/8.0 = 726.1 \mu\text{g/L}$$

$$\text{SMC} = \text{SAV}/2 = 726.1/2 = \mathbf{360 \mu\text{g/L}}$$

Chronic Aquatic Life:

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

SACR = 18

SCV =  $726.1/18 = 40 \mu\text{g/L}$

## Data

Table 1. GMAVs and SMAVs for carbon tetrachloride

<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>
5809	Bluegill <u>Lepomis macrochirus</u>	5809		1,2
35000	Cladoceran <u>Daphnia magna</u>	35000		3
41400	Fathead Minnow <u>Pimephales promelas</u>	41400		4

## References

1. Buccafusco, R.J., S.J. Ells, and G.A. LeBlanc 1981. Acute toxicity of priority pollutants to bluegill (Lepomis macrochirus). Bull. Environ. Contam. Toxicol. 24(5): 446-452.
2. Dawson, G.W., A.L. Jennings, D. Drozdowski, et al. 1977. The acute toxicity of 47 chemicals to fresh and saltwater fishes. J. Haz. Mat. 1: 303-318.
3. Geiger, D.L., L.T. Brooke, and D.J. Call 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.
4. 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 <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

September 18, 1997 Values first developed  
October 4, 2000 New search for data. No new studies added.

## Contact Information

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