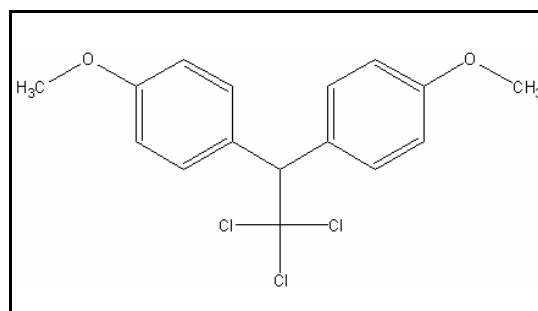




## TIER II HUMAN HEALTH NONCANCER VALUES

### METHOXYCHLOR

CAS RN:	72-43-5
Water Solubility:	0.1 mg/L
Log K <sub>ow</sub> :	5.325 <sup>P</sup>
Reference Dose:	0.0501 mg/kg/day
Carcinogenicity Weight-of-Evidence Classification:	Class D; Not Classifiable



### Standard

The human health noncancer methoxychlor value for drinking water sources is 6.3 µg/L. The human health noncancer value for nondrinking water sources is 6.6 µg/L.

### Calculations

#### Bioaccumulation Factor:

BAF predicted based on Log K<sub>ow</sub> and measured BCF (from Stephan 1993)

Log K<sub>ow</sub> = 5.325 (CLOGP), K<sub>ow</sub> = 211,349, BCF = 214, Percent lipid = 1.0

Trophic level 3 FCM = 4.803; trophic level 4 FCM = 4.742

$$f_{fd} = 1/(1+(0.00000024 \text{ kg/L})(K_{ow})) = 0.952$$

$$\text{Baseline BAF}_{T3} = (4.803)[(214/0.952)-1](1/0.01) = 107,486$$

$$\text{Baseline BAF}_{T4} = (4.742)[(214/0.952)-1](1/0.01) = 106,121$$

$$\text{Human health BAF}_{T3} = [(107,486)(0.0182)+1](0.952) = 1,863$$

$$\text{Human health BAF}_{T4} = [(106,121)(0.0310)+1](0.952) = 3,133$$

Acceptable Daily Exposure:

From the IRIS database:

$$\text{ADE} = \frac{\text{NOAEL}}{\text{UF}} = \frac{5.01 \text{ mg/kg-day}}{1000} = 0.00501 \text{ mg/kg/d}$$

Calculation of Criteria:

$$\begin{aligned} \text{Non Drinking Water HNV} &= [(0.0501)(70)(0.8)]/0.01+[(0.0036)(1,863)+(0.0114)(3,133)] \\ &= \mathbf{6.6 \mu\text{g/L}} \end{aligned}$$

$$\begin{aligned} \text{Drinking Water HNV} &= [(0.0501)(70)(0.8)]/2+[(0.0036)(1,863)+(0.0114)(3,133)] \\ &= \mathbf{6.3 \mu\text{g/L}} \end{aligned}$$

## References

1. Stephen, C.E. 1993. Derivation of Proposed Human Health and Wildlife Bioaccumulation Factors for the Great Lakes Initiative. Environmental Research Laboratory, Office of Research and Development, U.S. EPA, Duluth, MN.
2. USEPA 1996. Integrated Risk Information System (IRIS database) chemical file for methoxychlor (72-43-5).

## Acronyms

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ADE	Acceptable Daily Exposure
BAF	Bioaccumulation Factor
CAS RN	Chemical Abstract Service Registry Number
FCM	Food Chain Multiplier
IRIS	Integrated Risk Information System
K <sub>ow</sub>	Octanol-Water Partition Coefficient
LOAEL	Lowest observed adverse effect level
NOAEL	No observed adverse effect level
P (superscript)	Predicted value
RPLC	Reverse-phase Liquid Chromatography
UF	Uncertainty factor

## Revision History

August 12, 1997 - Values first developed

April 28, 2000 – Fact sheet updated. Error corrected in uncertainty factor.

## Contact Information

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