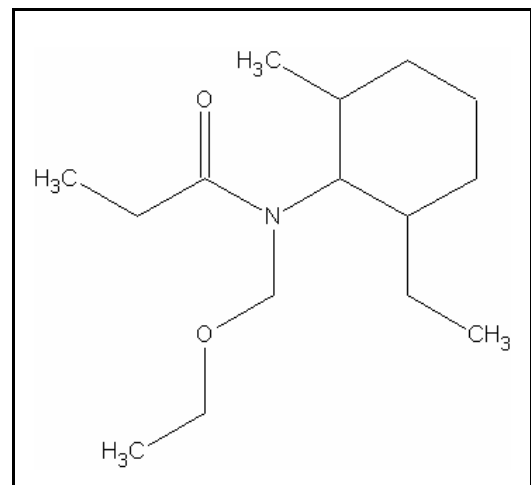




TIER I HUMAN HEALTH NONCANCER CRITERIA

ACETOCHLOR

CAS RN: 34256-82-1
Water Solubility:
Log K_{ow} : 3.03
Reference Dose: 2 mg/kg/day
Carcinogenicity Weight-of-
Evidence Classification: None



Standard

The human health noncancer acetochlor criterion for drinking water sources is 450 $\mu\text{g/L}$. The human health noncancer criterion for nondrinking water sources is 2,300 $\mu\text{g/L}$.

Calculations

Bioaccumulation Factor:

BAF predicted based on Log K_{ow}

$$\text{Log } K_{ow} = 3.03, K_{ow} = 1071.5$$

$$\text{Trophic level 3 FCM} = 1.028; \text{ trophic level 4 FCM} = 1.007$$

$$f_{fd} = 1/(1+(0.00000024 \text{ kg/L})(K_{ow})) = 0.9997$$

$$\text{Baseline BAF}_{T3} = (\text{FCM})(K_{ow}) = (1071.5)(1.028) = 1101.5$$

$$\text{Baseline BAF}_{T4} = (1071.5)(1.007) = 1079$$

$$\text{Human health BAF}_{T3} = [(1071.5)(0.0182)+1](0.9997) = 21.04$$

$$\text{Human health BAF}_{T4} = [(1071.5)(0.0310)+1](0.9997) = 34.44$$

$$\text{ADE} = \frac{\text{NOAEL}}{\text{UF}} = \frac{2 \text{ mg/kg-day}}{100} = 0.02 \text{ mg/kg/d}$$

Calculation of Criteria:

$$\begin{aligned} \text{Non Drinking Water HNC} &= [(0.02)(70)(0.8)]/0.01+[(0.0036)(21.04)+(0.0114)(34.44)] \\ &= 450 \text{ } \mu\text{g/L} \end{aligned}$$

$$\begin{aligned} \text{Drinking Water HNC} &= [(0.02)(70)(0.8)]/2+[(0.0036)(21.04)+(0.0114)(34.44)] \\ &= 2,300 \text{ } \mu\text{g/L} \end{aligned}$$

References

1. USEPA 1993. Integrated Risk Information System (IRIS database) chemical file for acetochlor (CAS # 34256-82-1).

Acronyms/Abbreviations

ADE	Acceptable Daily Exposure
BAF	Bioaccumulation Factor
CAS RN	Chemical Abstract Service Registry Number
FCM	Food Chain Multiplier
IRIS	Integrated Risk Information System

K_{ow}	Octanol-Water Partition Coefficient
LOAEL	Lowest observed adverse effect level
NOAEL	No observed adverse effect level
P (superscript)	Predicted value
UF	Uncertainty factor

Revision History

March 30, 2001 - Criteria first developed

Contact Information

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