

## CRITERIA SUMMARY

Lake Erie Basin			
Tier I HNC (µg/l)		Tier I HCC (µg/l)	
Drinking	Nondrinking	Drinking	Nondrinking
9.7	780	ID	ID

## EXPOSURE AND TOXICITY DATA

Human health trophic level 3 bioaccumulation factor (BAFHH<sub>TL3</sub>) = 1.0 l/kg (USEPA 1980)  
 Human health trophic level 4 bioaccumulation factor (BAFHH<sub>TL4</sub>) = 1.0 l/kg (USEPA 1980)  
 Acceptable daily exposure (ADE) = 3.5E-4 mg/kg/day (IRIS RfD, last revised 02/01/91)  
 Carcinogen assessment: Not evaluated (IRIS)  
 Cancer slope factor (q<sub>1</sub>\*) = Not available (IRIS)  
 Body weight of average human (BW) = 70 kg (OAC 3745-1-38)  
 Relative source contribution factor (RSC) = 0.8 (OAC 3745-1-38)  
 Per capita water consumption (WC) = 2.0 l/day for drinking water criteria (OAC 3745-1-38)  
   = 0.01 l/day for nondrinking water criteria (OAC 3745-1-38)  
 Mean consumption of trophic level three fish (FC<sub>TL3</sub>) = 0.0036 kg/day (OAC 3745-1-38)  
 Mean consumption of trophic level four fish (FC<sub>TL4</sub>) = 0.0114 kg/day (OAC 3745-1-38)

## REFERENCES

- Integrated Risk Information System. USEPA Office of Research and Development, National Center for Environmental Assessment.
- Ohio Administrative Code rule 3745-1-38: Methodologies for Development of Human Health Criteria and Values for the Lake Erie Drainage Basin. Effective 10/31/97.
- USEPA. 1980. Ambient Water Quality Criteria for Antimony. EPA 440/5-80-020. October 1980.

## CALCULATION OF HUMAN NONCARCINOGENIC CRITERION (HNC) <sup>a</sup>

$$\text{HNC} = \frac{\text{ADE} \times \text{BW} \times \text{RSC}}{\text{WC} + [(\text{FC}_{\text{TL3}} \times \text{BAFHHTL3}) + (\text{FC}_{\text{TL4}} \times \text{BAFHHTL4})]}$$

$$\begin{aligned} \text{Drinking Water HNC} &= \frac{3.5\text{E-}4 \text{ mg/kg/day} \times 70 \text{ kg} \times 0.8}{2.0 \text{ l/day} + [(0.0036 \text{ kg/day} \times 1.0 \text{ l/kg}) + (0.0114 \text{ kg/day} \times 1.0 \text{ l/kg})]} \\ &= 9.7\text{E-}3 \text{ mg/l} = 9.7 \text{ }\mu\text{g/l} \end{aligned}$$

$$\begin{aligned} \text{Nondrinking Water HNC} &= \frac{3.5\text{E-}4 \text{ mg/kg/day} \times 70 \text{ kg} \times 0.8}{0.01 \text{ l/day} + [(0.0036 \text{ kg/day} \times 1.0 \text{ l/kg}) + (0.0114 \text{ kg/day} \times 1.0 \text{ l/kg})]} \\ &= 0.78 \text{ mg/l} = 780 \text{ }\mu\text{g/l} \end{aligned}$$

## CALCULATION OF HUMAN CARCINOGENIC CRITERION (HCC) <sup>a</sup>

$$\text{HCC} = \frac{\text{RAD} \times \text{BW}}{\text{WC} + [(\text{FC}_{\text{TL3}} \times \text{BAFHHTL3}) + (\text{FC}_{\text{TL4}} \times \text{BAFHHTL4})]}$$

Insufficient data (no  $q_1^*$ ).

<sup>a</sup>See Ohio Administrative Code 3745-1-38 effective October 31, 1997.