

Chemical Name: 2-Chlorophenol Developed by: Bob Heitzman, John EstenikCAS # 95-57-8 IRIS Data Retrieval Date: 2-10-98Internal Code # 39 Fact Sheet Preparation Date: 2-12-98

## CRITERIA SUMMARY

Lake Erie Basin			
Tier II HNV ( $\mu\text{g/l}$ )		Tier I HCC ( $\mu\text{g/l}$ )	
Drinking	Nondrinking	Drinking	Nondrinking
72	150	ID	ID

## EXPOSURE AND TOXICITY DATA

Human health trophic level 3 bioaccumulation factor ( $\text{BAFHH}_{\text{TL3}}$ ) = 82.29 l/kg (MDEQ)Human health trophic level 4 bioaccumulation factor ( $\text{BAFHH}_{\text{TL4}}$ ) = 138.65 l/kg (MDEQ)Acceptable daily exposure (ADE) =  $5.0\text{E-}3$  mg/kg/day (IRIS RfD, last revised 07/01/93)

Carcinogen assessment: Not evaluated (IRIS)

Cancer slope factor ( $q_1^*$ ) = 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 ( $\text{FC}_{\text{TL3}}$ ) = 0.0036 kg/day (OAC 3745-1-38)Mean consumption of trophic level four fish ( $\text{FC}_{\text{TL4}}$ ) = 0.0114 kg/day (OAC 3745-1-38)

## REFERENCES

Integrated Risk Information System. USEPA Office of Research and Development, National Center for Environmental Assessment.

Michigan Department of Environmental Quality, Surface Water Quality Division. 1997. Bioaccumulation Factor Worksheet for 2-Chlorophenol. Verification Date: 4/8/97.

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.

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### CALCULATION OF HUMAN NONCARCINOGENIC VALUE (HNV) <sup>a</sup>

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

$$\begin{aligned} \text{Drinking Water HNV} &= \frac{5.0\text{E-}3 \text{ mg/kg/day} \times 70 \text{ kg} \times 0.8}{2.0 \text{ l/day} + [(0.0036 \text{ kg/day} \times 82.29 \text{ l/kg}) + (0.0114 \text{ kg/day} \times 138.65 \text{ l/kg})]} \\ &= 0.072 \text{ mg/l} = 72 \text{ }\mu\text{g/l} \end{aligned}$$

$$\begin{aligned} \text{Nondrinking Water HNV} &= \frac{5.0\text{E-}3 \text{ mg/kg/day} \times 70 \text{ kg} \times 0.8}{0.01 \text{ l/day} + [(0.0036 \text{ kg/day} \times 82.29 \text{ l/kg}) + (0.0114 \text{ kg/day} \times 138.65 \text{ l/kg})]} \\ &= 0.15 \text{ mg/l} = 150 \text{ }\mu\text{g/l} \end{aligned}$$

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

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

Insufficient data (no  $q_1^*$ ).

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