Chemical Name: Mirex Developed by: Mylynda Shaskus, Bob Heitzman
CAS # 2385-85-5 IRIS Data Retrieval Date: 5-10-05
Internal Code # ___ Fact Sheet Preparation Date: 6-21-05

# CRITERIA SUMMARY

| Lake Erie Basin | | | |
|---|---|---|---|
| Tier I HNC (µg/l) | | Tier I HCC (µg/l) | |
| Drinking | Nondrinking | Drinking | Nondrinking |
| 0.00072 | 0.00072 | 0.000074 | 0.000074 |

# EXPOSURE AND TOXICITY DATA

Human health trophic level 3 bioaccumulation factor ($BAFHH_{TL3}$) = 353,400 l/kg (USEPA 1995)
Human health trophic level 4 bioaccumulation factor ($BAFHH_{TL4}$) = 1,461,000 l/kg (USEPA 1995)
Acceptable daily exposure (ADE) = 2.3E-4 mg/kg/day (IRIS RfD, last revised 10/01/92)
Carcinogen assessment: Weight-of-Evidence Group B2, Likely to Be Carcinogenic to Humans (USEPA 1999)
Cancer slope factor ($q_1$*) = 0.53 $(mg/kg/d)^{-1}$ (USEPA 1999)
Body weight of average human (BW) = 70 kg (OAC 3745-1-38)
Relative source contribution factor (RSC) (not used with linear carcinogenic slope factors) = 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 ($FC_{TL3}$) = 0.0036 kg/day (OAC 3745-1-38)
Mean consumption of trophic level four fish ($FC_{TL4}$) = 0.0114 kg/day (OAC 3745-1-38)
Risk associated dose (RAD) = Risk level ÷ $q_1$*
= 1E-5 ÷ 0.53 per mg/kg/day
= 1.89E-5 mg/kg/day

# REFERENCES

Integrated Risk Information System. USEPA Office of Research and Development, National Center for Environmental Assessment. http://www.epa.gov/iris/index.html

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. 1995. Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors. EPA-820-B-95-005. March 1995. p. H-3.

USEPA. 1999. Risk assessment issue review: Characterizing cancer risk from exposure to mirex at the Nease Chemical Site near Salem, Ohio. 98-011/1-28-99. Attachment to letter from U.S. EPA Region 5 to Dr. Rainer Domalski, Ruetgers Organics Corporation. February 9.

# CALCULATION OF HUMAN NONCARCINOGENIC CRITERION (HNC) [a]

$$HNC = \frac{ADE \times BW \times RSC}{WC + [(FC_{TL3} \times BAFHH_{TL3}) + (FC_{TL4} \times BAFHH_{TL4})]}$$

Drinking Water HNC =