MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

FEBRUARY 28, 1994

TO: File for Atevirdine Mesylate (136816-75-6)

FROM: Marco Bianchi

SUBJECT: Initial Threshold Screening Level

The initial threshold screening level (ITSL) for atevirdine mesylate is 16 $\mu g/m^3$ based on an annual averaging time.

The following references or databases were searched to identify data to determine the ITSL: IRIS, HEAST, NTP Management Status Report, RTECS, EPB-CCD, EPB library, CAS-online, NLM-online, IARC, NIOSH Pocket Guide, and ACGIH Guide.

An earlier review of atevirdine mesylate on November 17, 1993 established an ITSL of 0.4 $\mu g/m^3$. However, the Upjohn Company sent an inhouse, oral rat LD_{50} study for this compound to help develop an ITSL. In this study, a suspension of atevirdine mesylate was orally administered to a single group of 4 male albino rats at a dose of 5000 mg/kg. Three rats appeared normal with trends of weight gain throughout the 14-day study period. The remaining rat had diarrhea and yellow staining of the anogenital area 1-2 days post dosing, but appeared normal with body weight gain thereafter for the remainder of the 14 day study period. Necropsy of all 4 animals at study termination revealed no gross lesions. A shortcoming of this study compared to other LD_{50} studies is the use of a single sex instead of two sexes. However, other aspects of the study provide enough confidence to set the LD_{50} at 5000 mg/kg seeing as how the actual LD_{50} is greater than 5000 mg/kg.

An interim ITSL was derived as follows:

LD_{50} = 5,000 mg/kg

$$ITSL = \frac{1}{500} \times \frac{1}{40} \times \frac{1}{100} \times \frac{5000}{0.167 \times 0.931} = 0.016 \text{ mg/m}^3$$

$0.016 \text{ mg/m}^3 \times 1000 = 16 \ \mu g/m^3$

ITSL for atevirdine mesylate = 16 $\mu g/m^3$ based on annual averaging.

MB:ma