

# MICHIGAN DEPARTMENT OF NATURAL RESOURCES

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## INTEROFFICE COMMUNICATION

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AUGUST 10, 1994

TO: File for Quinapril Step 8 (CAS# 82586-54-7)

FROM: Michael Depa, Toxics Unit

SUBJECT: Screening Level Determination

The initial threshold screening level (ITSL) for quinapril step 8 is 2  $\mu\text{g}/\text{m}^3$  based on annual averaging time.

The following references or databases were searched to identify data to determine the ITSL: IRIS, RTECS, ACGIH Threshold Limit Values, NIOSH Pocket Guide to Hazardous Chemicals, Environmental Protection Bureau Library, IARC Monographs, CAS Online (1967-November 23, 1993), National Library of Medicine, Health Effects Assessment Summary Tables, and NTP Status Report. Review of these sources found that EPA has not established an RfC or RfD for quinapril step 8. Occupational exposure limits were not available. There was no data meeting the minimum criteria for establishing an RfC or RfD. A surrogate LD50 was identified from a study done by Warner-Lambert (Warner-Lambert, 1990). Five Sprague-Dawley rats per sex were administered a single oral dose of 500 mg/kg quinapril step 8 suspended in corn oil (5% w/w). All animals survived the 14 day observation period. The surrogate LD50 of 500 mg/kg was used to develop the ITSL.

$$\text{ITSL} = 1/500 \times 1/40 \times 1/100 \times (\text{LD50} \times W_a)/(0.167 \times I_a)$$

$$\text{ITSL} = 1/500 \times 1/40 \times 1/100 \times (500 \text{ mg/kg} \times 0.475 \text{ kg})/(0.167 \times 0.435 \text{ m}^3/\text{day})$$

$$\text{ITSL} = 0.0016 \text{ mg}/\text{m}^3$$

$$\text{ITSL} = 2 \mu\text{g}/\text{m}^3$$

Where  $W_a$  equals the average weight of the Sprague-Dawley rat, and  
 $I_a$  equals the average inhalation rate of the Sprague-Dawley rat (EPA, 1988)

The initial threshold screening level (ITSL) for quinapril step 8 is  $2 \mu\text{g}/\text{m}^3$  based on an annual averaging time.

EPA. 1988. Recommendation for and documentation of biological values for use in risk assessment. PB 88-179874.

Warner-Lambert. 1990. Acute oral toxicity (limit test) study of PD 109549-6614 (Quinapril Benzyl Ester, Maleic Acid Salt) in rats for occupational health hazard evaluation. Research Report Number: RR-901-00169. Date Issued: 6/21/90. (Food and Drug Research Laboratories No.: 88.3735.013. Dated: 10/4/88).