

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

January 22, 2004

TO: File for octylisothiazolone (26530-20-1)  
FROM: Marco Bianchi  
SUBJECT: Initial Threshold Screening Level

The initial threshold screening level (ITSL) for octylisothiazolone is  $2 \mu\text{g}/\text{m}^3$  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, ACGIH Guide, and TSCA 8(e) submittals.

A complete reference check was conducted for octylisothiazolone, but information was limited to one  $\text{LD}_{50}$  study. This study was obtained through the EPA-OTS library as a TSCA 8(e) toxicity summary submitted by the Rohm and Haas Company. In this study, five male and five female Sprague-Dawley rats per dose level were dosed by gastric intubation with 31.6, 100, 316, 1000, or 3160 mg/kg octylisothiazolone in corn oil. The test animals were observed for 14 days and the  $\text{LD}_{50}$  value was estimated by the method of Thompson. The  $\text{LD}_{50}$  for octylisothiazolone was determined to be 708 mg/kg for males and 562 mg/kg for females. The  $\text{LD}_{50}$  value of 562 mg/kg will be used to derive the ITSL.

The ITSL was derived as follows:

$$\text{ITSL} = \frac{1}{500} \times \frac{1}{40} \times \frac{1}{100} \times \frac{562}{0.167 \times 0.972} = 0.0017 \text{ mg}/\text{m}^3$$

$0.0017 \text{ mg}/\text{m}^3 \times 1000 = 1.7 \text{ ug}/\text{m}^3$  based on annual averaging.

**The ITSL for octylisothiazolone =  $2 \text{ ug}/\text{m}^3$  based on annual averaging.**

References:

1. TSCA 8(e). 1987. Acute oral  $\text{LD}_{50}$  determination in rats with RH-893 (Final Report) (Sanitized). Rohm and Haas Company/Hazelton Laboratories, Inc. Fiche #: OTS0516464.