

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

October 25, 1996

TO: File for 2,2,4-trimethyl- 1,3 -pentanediol diisobutyrate (CAS# 6846-50-0)

FROM: Marco Bianchi, Toxics Unit, Air Quality Division

SUBJECT: Initial Threshold Screening Level

The initial threshold screening level (ITSL) for 2,2,4-trimethyl- 1,3 -pentanediol diisobutyrate is 106 $\mu\text{g}/\text{m}^3$ 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, and ACGIH Guide.

A complete reference check was conducted for 2,2,4-trimethyl- 1,3 -pentanediol diisobutyrate, but information was limited to two LC50 studies provided by Eastman Kodak. In separate studies, 3 male Sprague-Dawley rats were exposed to either 0.12 mg/liter, or to 5.3 mg/liter of the compound for 6 hours. No adverse effects were observed during the 2-week post-dosing observation period. Statistical analysis was not conducted to determine the LC50 of 5.3 mg/L since all rats survived the inhalation exposure.

The ITSL was derived as follows:

$$\text{LC50} = 5.3 \text{ mg/L}$$

$$\text{mg}/\text{m}^3 = 5.3 \text{ mg/L} \times 1000 \text{ L}/\text{m}^3 = 5300 \text{ mg}/\text{m}^3$$

$$\text{ITSL} = \frac{5300 \text{ mg}/\text{m}^3}{500 \times 100} = 0.106 \text{ mg}/\text{m}^3$$

$$0.106 \text{ mg}/\text{m}^3 \times 1000 \mu\text{g}/\text{mg} = 106 \mu\text{g}/\text{m}^3$$

The ITSL for 2,2,4-trimethyl-1,3-pentanediol diisobutyrate 106 $\mu\text{g}/\text{m}^3$ based on annual averaging.

MB : slb