

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

October 21, 1994

TO: File for Betamethasone 11 (981-34-0)
FROM: Marco Bianchi *Marco Bianchi*
SUBJECT: Initial Threshold Screening Level

The initial threshold screening level (ITSL) for betamethasone 11 is 17 $\mu\text{g}/\text{m}^3$ 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 betamethasone 11, but only limited information was available. Upjohn provided an in-house oral LD_{50} study for betamethasone II. Four male albino rats were given a single oral dose of 5000 mg/kg body weight of betamethasone 11 suspended in a 0.25% methylcellulose solution. No compound related effects were observed immediately or for 14 days post dosing. The rats were sacrificed at the termination of the study and no gross lesions were observed at necropsy. Although there were no deaths from compound administration at 5000 mg/kg, this value will be used as a surrogate to calculate an ITSL.

The ITSL was derived as follows:

The LD_{50} for this study was determined to be 5000 mg/kg.

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$\text{LD}_{50} = 5000 \text{ mg/kg}$

$$\text{ITSL} = \frac{1}{500} \times \frac{1}{40} \times \frac{1}{100} \times \frac{5000}{0.167 \times 0.900} = 0.0166 \text{ mg/kg}$$

$0.0166 \text{ mg/kg} \times 1000 = 17 \mu\text{g}/\text{m}^3$ based on annual averaging.

The ITSL for betamethasone 11 = 17 $\mu\text{g}/\text{m}^3$ based on annual averaging.

MB:ma