

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

JANUARY 26, 1994

TO: File for Polyglycol 26-3
No CAS# as per RTECS and Dow Chemical Co.

FROM: Marco Bianchi

SUBJECT: Interim Initial Threshold Screening Level

The interim initial threshold screening level (ITSL) for polyglycol 26-3 is 16 $\mu\text{g}/\text{m}^3$ 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 polyglycol 26-3, but only limited information was available. The Dow Chemical Company submitted an oral rat LD_{50} internal study that could be used to derive an interim ITSL for this compound. This study involved gavage dosing 6 male and 6 female rats/group at 5,000 mg/kg of polyglycol 26-3. Only one male rat died and the majority of surviving animals steadily gained weight during the 14 day observation period. Although an actual LD_{50} was not derived from this study, the data suggested that the LD_{50} was greater than 5,000 mg/kg. Therefore, a LD_{50} of 5,000 mg/kg will be used as a surrogate value to derive an interim ITSL.

An interim ITSL was derived as follows:

$\text{LD}_{50} = 5,000 \text{ mg/kg}$

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

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

The interim ITSL for polyglycol 26-3 = 16 $\mu\text{g}/\text{m}^3$ based on annual averaging.

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