

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

JANUARY 26, 1994

TO: File for Polyglycol 59-13 (24938-91-8)
FROM: Marco Bianchi
SUBJECT: Initial Threshold Screening Level

The initial threshold screening level (ITSL) for polyglycol 59-13 is $8 \mu\text{g}/\text{m}^3$ 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 59-13, 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 ITSL for this compound. This study involved gavage dosing 6 male and 6 female rats/group at 1300, 2,500 or 5,000 mg/kg of polyglycol 59-13. Six male and four female rats given 5000 mg/kg and one male and three female rats given 2500 mg/kg died by test day 4. Although a statistical LD_{50} was not derived from this study, the data suggested that the LD_{50} was greater than 2,500 mg/kg. Therefore, a LD_{50} of 2,500 mg/kg will be used as a surrogate value to derive an ITSL.

An ITSL was derived as follows:

$\text{LD}_{50} = 2,500 \text{ mg/kg}$

$$\text{ITSL} = \frac{1}{500} \times \frac{1}{40} \times \frac{1}{100} \times \frac{2500}{0.167 \times 0.931} = 0.008 \text{ mg}/\text{m}^3$$

$$0.008 \text{ mg}/\text{m}^3 \times 1000 = 8 \mu\text{g}/\text{m}^3$$

The ITSL for polyglycol 59-13 = $8 \mu\text{g}/\text{m}^3$ based on annual averaging.

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