

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

December 2, 1993

TO: File for ETHYLTRIMETHOXYSILANE (CAS # 5314-55-6)
FROM: George Eurich
SUBJECT: Screening Level for Ethyltrimethoxysilane

The ITSL for ethyltrimethoxysilane has been set at 3 ug/m³ based on annual averaging time.

A search of the following databases produced no toxicological data on this chemical:

RTECS	NIOSH REL
IRIS	NTP MANAGEMENT STATUS REPORT
EPB LIBRARY	IARC MONOGRAPHS
ACGIH LIBRARY	EPB CHEMICAL CRITERIA DATABASE
HEAST	CAS ONLINE SEARCH (1967-1993)
NLM SEARCH (1981-1993)	

The screening level will be based on a range finding study provided by Dow Corning (permit applicant). The results of the study reported that rats survived 1 g/kg oral exposure, exhibiting slight kidney pathology. The results also stated that when rats were exposed to a saturated atmosphere of ethyltrimethoxysilane (1 hr, room temp), all were alive upon removal from the exposure chamber but very drowsy. All rats died overnight and showed kidney pathology upon necropsy. No details of the studies, i.e. number of animals, strain, etc., could be obtained. Because of the lack of experiment specifics the oral exposure result will be used as a surrogate LD50 for rats.

$$\text{ITSL} = \frac{1}{500 \times 40 \times 100} \times \frac{1000 \text{ mg/kg} \times .422 \text{ kg}}{.167 \times .393 \text{ m}^3/\text{day}} = 3 \text{ ug/m}^3 \text{ based on annual avg. time.}$$

Since body weight and inhalation rates of test animals were not provided, default values of 0.422 kg and 0.393 m³/day, respectively, were used.

While this screening level has been determined using incomplete data, it is lower than ITSL determined for the structurally similar compound Methyltrimethoxysilane (ITSL = 80 ug/m³) which was calculated from better data. The low ITSL for ethyltrimethoxysilane essentially provides an additional safety factor to correct for uncertainty due to poor data.

GE:ma