

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

November 10, 1998

TO: File for aliphatic polyisocyanate-1 (CAS #3779-63-3)
FROM: Cathy Simon, Supervisor, Toxics Unit, Air Quality Division
SUBJECT: Change in the Initial Threshold Screening Level (ITSL)

The ITSL for aliphatic polyisocyanate-1 has been changed from 0.04 $\mu\text{g}/\text{m}^3$ to 0.1 $\mu\text{g}/\text{m}^3$ based on an annual averaging time.

The change in the ITSL was made due to a revision in the State's air toxic rules which became effective on November 10, 1998. Previously, the ITSL had been set pursuant to Rule 232(i). This rule sets the ITSL at a default value of 0.04 $\mu\text{g}/\text{m}^3$ (annual average) when no specific data are available to determine an ITSL. The November 10, 1998 revisions to the rules changed this default ITSL to a value of 0.1 $\mu\text{g}/\text{m}^3$.

No updated review of the literature has been done since the ITSL was originally set at a value of 0.04 $\mu\text{g}/\text{m}^3$, to determine if new data are available for this compound.

CAS:SLB

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

August 16, 1993

TO: File for aliphatic polyisocyanate-1 (CAS # 3779-63-3)
FROM: Dennis Bush, Surface Water Quality Division
SUBJECT: ITSL Derivation

No RfD, RfC or OELs are available for aliphatic polyisocyanate-1 (also known as trishexamethylene triisocyanate and hexamethylene diisocyanate cyclic trimer). A CAS search conducted on June 26, 1993 revealed no useful toxicity studies. NLM and NTIS searches conducted on July 20, 1993 revealed no studies. An MSDS provided by BASF listed a TLV and PEL of 0.005 ppm (0.035 mg/m³) for aliphatic polyisocyanate-1. Since no OELs are available for this compound in ACGIH (1989) or NIOSH (1985), it was presumed that these OELs were derived from information provided for another isocyanate. Methylene bisphenyl isocyanate, methylene bis-(4- cyclohexylisocyanate), isophorone diisocyanate and hexamethylene diisocyanate (aliphatic polyisocyanate-1 is the cyclic trimer of this compound) all have TLVs of 0.005 ppm. The TLVs for these compounds are based on the TLV for toluene-2,4-diisocyanate (TDI) because the limited data suggest their toxicological actions are similar to those of TDI. It is considered inappropriate to base a TLV for polyisocyanate-1 on the TLV for TDI because there are no toxicity data available for comparisons between the two compounds and the structure of polyisocyanate-1 is quite different from that of TDI.

An ITSL was therefore set at the trace value of 0.04 µg/m³ for this compound.

ITSL = 0.04 µg/m³ with annual averaging

REFERENCES

ACGIH. 1989. Documentation of the Threshold Limit Values and Biological Exposure Indices.

NIOSH. 1985. Pocket Guide to Chemical Hazards.

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