

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

March 24, 1998

TO: File for Hydrotreated Heavy Paraffinic Mineral Oil (CAS No. 64742-54-7)

FROM: Michael Depa, Toxics Unit, Air Quality Division

SUBJECT: Initial Threshold Screening Level (ITSL) Determination

The ITSL for hydrotreated heavy paraffinic mineral oil is 50  $\mu\text{g}/\text{m}^3$  based on a 8-hour averaging time.

The following references or databases were searched to identify data to determine the ITSL: IRIS, RTECS, ACGIH Threshold Limit Values, NIOSH Pocket Guide to Hazardous Chemicals, Environmental Protection Bureau Library, IARC Monographs, CAS Online (1967 - February 17, 1998), National Library of Medicine Toxline, 1997 Health Effects Assessment Summary Tables, and NTP Status Report. Review of these sources found that EPA has not established an RfD or RfC for hydrotreated heavy paraffinic mineral oil. The occupational exposure level (e.g. ACGIH-TLV, NIOSH REL and OSHA PEL) for mineral oil mist is 5  $\text{mg}/\text{m}^3$ . The ACGIH-TLV for "Oil Mist, Mineral" describes this substance as having carbon numbers of 15 or more and a boiling point in the range of 300° to 600°C (ACGIH, 1991). The EPA Toxic Substances Control Act Inventory (TSCA, 1979) defines this substance as

A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil with a viscosity not less than 100 SUS at 100°F. It contains a relatively large proportion of saturated hydrocarbons.

Additional information on hydrotreated heavy paraffinic mineral oil was available from a Material Safety Data Sheet (MSDS) supplied by Exxon Company. The MSDS describes this substance as a petroleum lubricating oil. Pertinent physical characteristics include a boiling point of approximately 391°C, specific gravity of 0.89, vapor pressure of less than 0.01 mmHg @ 20°C and a viscosity of 700 SUS @ 100°F.

It was deemed appropriate to use the ACGIH-TLV for "Oil Mist, Mineral" to derive the ITSL for hydrotreated heavy paraffinic mineral oil. Pursuant to Rule 232(1)(c) the ITSL for hydrotreated heavy paraffinic mineral oil is based on 1% of the ACGIH-TLV for mineral oil mist.

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**REFERENCES**

ACGIH. 1991. Documentation of the threshold limit values and biological exposure indices, 6th edition. American Conference of Governmental and Industrial Hygienists. Cincinnati, OH.

TSCA. 1979. Toxic Substances Control Act (TSCA) chemical substance inventory. Vol. I. Initial Inventory. Appendix A: chemical substance definitions. U.S. EPA, Office of Toxic Substances. May 1979.

MD:SLB

cc: Mary Lee Hultin, AQD