

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

February 4, 1998

TO: File for Heavy Naphtha (CAS No. 68551-17-7)

FROM: Michael Depa, Toxics Unit

SUBJECT: Screening Level Determination

The initial threshold screening level (ITSL) for heavy naphtha is 3500 µg/m³ 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 - November 11, 1997), 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 heavy naphtha.

Pursuant to Rule 232(1)(c) the ITSL for heavy naphtha is based on 1% of the NIOSH REL for refined petroleum solvents (REL = 350 mg/m³). The NIOSH definition of refined petroleum solvents are restricted to materials that have a hydrocarbon chain length of C5 to C12, boiling point range of 30 to 210 degrees Celsius, and contain less than 20% aromatic hydrocarbons (NIOSH, 1977). Heavy naphtha (CAS No. 68551-17-7) has chain lengths C10 to C13 and is comprised of primarily isoalkanes. Heavy naphtha has a boiling point range of 170-210°C. Since heavy naphtha is composed of isoalkanes it is unlikely that it contains any aromatic hydrocarbons.

Even though the upper carbon length range for heavy naphtha (C10 to C13) exceeds the NIOSH definition for refined petroleum hydrocarbon (C5 to C12) by one carbon it was deemed appropriate to use the NIOSH REL to develop an ITSL for heavy naphtha.

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REFERENCES

NIOSH. 1977. Criteria for a recommended standard...occupational exposure to refined petroleum solvents. National Institute for Occupational Safety and Health. US Department of Health and Human Services. Centers for Disease Control. NIOSH Publication No. 77-192.