MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

August 31, 1993

TO: File for Methyl Propyl Ketone (CAS# 107-87-9)

FROM: Michael Depa, Toxics Unit

SUBJECT: Initial Threshold Screening Level

The initial threshold screening level (ITSL) for Methyl Propyl Ketone is 5300 ug/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-August 21 , 1993), and NTP Management Status Report.

No RfC or RfD was available for Methyl Propyl Ketone. There was no data available on which to base a RfC or RfD. An ACGIH TLV of 705 mg/m^3 and a NIOSH REL of 530 mg/m^3 were available. Based on Rule 232(1)(c) the ITSL is determined as follows:

ITSL = OEL divided by 100

Where the occupational exposure level (OEL) is the lowest value of the NIOSH REL or the ACGIH TLV. The NIOSH REL was the lowest OEL, therefore the ITSL was base on its value.

NIOSH set the REL below the TLV using acute animal and human data which included an analysis of structure activity relationships to warrant an REL of 530 mg/m^3 (150 ppm). Methyl Propyl Ketone was found to be more toxic than Methyl Ethyl Ketone (REL = 590 mg/m^3), but considerably less toxic than Methyl Butyl Ketone (REL = 4 mg/m^3). Therefore NIOSH reduced the Federal standard from 200 ppm to 150 ppm which falls between Methyl Ethyl Ketone and Methyl Butyl Ketone in relative toxicity in order to "protect employees from irritation to the eyes, nose and throat." (NIOSH, 1978)

National Institute for Occupational Safety and Health (NIOSH). 1978. Occupational exposure to ketones. SUDOC#: HE20.7110:K49. pp. 74-76, and 182.