

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

October 28, 1993

TO: File for Magnesium Stearate (CAS# 557-04-0)

FROM: Michael Depa, Toxics Unit

SUBJECT: Screening Level Determination

The initial threshold screening level (ITSL) for magnesium stearate is 100 µg/m³ with an 8-hour averaging time.

The Registry of Toxic Effects of Chemical Substances (RTECS) database for magnesium stearate was analyzed for toxicity information. RTECS indicated there is no evidence of carcinogenicity. U.S. Environmental Protection Agency (EPA) Reference Concentration (RfC) or Reference Dose (RfD) values were not available. There is no data available which meets the minimum requirements for establishing a RfC or RfD.

There is no National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL) for magnesium stearate. The American Conference of Governmental and Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) Documentation listed magnesium stearate under "stearates", therefore it was deemed appropriate to use the TLV for "stearates" to develop an ITSL for magnesium stearate. The ACGIH TLV for stearates is 10 mg/m³. ACGIH based the TLV on acute animal and human data to be protective for effects on the eyes, skin and upper respiratory tract. Based on Rule 232(1)(c) the ITSL is calculated as follows:

$$\begin{aligned} \text{ITSL} &= \text{OEL divided by } 100 \\ \text{ITSL} &= 10 \text{ mg/m}^3 / 100 \times 1000 \mu\text{g/mg} \\ \text{ITSL} &= 100 \mu\text{g/m}^3 \end{aligned}$$

Where the occupational exposure level (OEL) is the lowest value of the NIOSH REL or the ACGIH TLV.

Pursuant to Rule 232(2)(a) the averaging time is 8-hrs.

Reference

ACGIH. 1985. Documentation of the Threshold Limit Values and Biological Exposure Indices. Cincinnati, OH. Stearates TLV