MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: File for Methyl Ethyl Ketone (CAS # 78-93-3)

FROM: Robert Sills, AQD Toxics Unit Supervisor

SUBJECT: Methyl Ethyl Ketone ITSL justification

DATE: December 22, 2016

The current ITSL for Methyl Ethyl Ketone (also known as 2-butanone or MEK) is 5000 ug/m^3, with 24 hr averaging time (AT).

This ITSL and AT was established on December 26, 2003 based on and consistent with an EPA (2003) Reference Concentration (RfC), which EPA derived from a mouse developmental study. The critical effects were developmental: skeletal variations. EPA (2003) applied a total uncertainty factor (UF) = 300, which consisted of a UF = 3 for interspecies extrapolation, UF = 10 for intraspecies variability, and UF = 10 for database deficiencies, including lack of both a chronic inhalation toxicity study and a multigeneration reproductive study. A UF was not applied for extrapolating from subchronic results because developmental toxicity was used as the critical effect. Therefore, this review finds that the EPA (2003) application of UF_{db} is justified based on chemical-specific data (because developmental toxicity is the critical effect and a multigeneration study is absent), and finds that the AT for the ITSL is appropriately be set at 24 hrs.

References:

EPA. 2003. Integrated Risk Information System (IRIS database). Chemical file for Methyl Ethyl Ketone. Inhalation RfC assessment last revised 9/26/2003. Still current as of 12/22/16.