

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

November 21, 2000

TO: Diesel fuel file (CAS # 68334-30-5)
FROM: Gary Butterfield, Toxic Unit, Air Quality Division
SUBJECT: Screening level for diesel fuel

Diesel fuel (CAS # 68334-30-5) is described in U.S. Environmental Protection Agency's (USEPA) Toxic Substance Control Act (ToSCA) inventory as a complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C20 and boiling in the range of approximately 163 degrees C to 357 degrees (or 325 degrees F to 675 degrees).

An April 14, 2000 CAS on-line literature search found no hits under this CAS number. The NLM on-line literature search found an unpublished acute toxicity study that had been submitted to USEPA under Toxic Substances Control Act program. This study was a 4-hour acute exposure to a mixture of aerosol and vapor with groups of 10 Sprague-Dawley rats per sex followed by a 14-day observation period (Arco Chemical Co. 1988). The 4-hour LC50 was determined to be 3.6 mg/L for the female rats and 4.1 mg/L for the males.

Standard secondary toxicity references - RTECS, IARC, NTP, NIOSH, ATSDR, EPA's IRIS, etc. were not able to locate any toxicity data that could be used to calculate a screening level for a chemical with this CAS number.

The female rat acute LC50 of 3.6 mg/L or 3600 mg/m³ (from Arco Chemical 1988) is the best available toxicity information that can provide the basis for development of the screening level. The ITSL can be calculated from the equation in R232(f) as follows.

$$\text{ITSL} = \frac{3600 \text{ mg/m}^3}{500 \times 100} = 0.07 \text{ mg/m}^3 = 70 \text{ } \mu\text{g/m}^3 \text{ with annual averaging.}$$

References:

Arco Chemical Co. 1988. Acute inhalation toxicity in rats administered Naval distillate (CAS # 68334-30-5). EPA/OTS0544094

GB:ST

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