

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: Trifluoropropylmethyl dimethoxysilane file (CAS # 358-67-8)
FROM: Gary Butterfield *Gary Butterfield*
SUBJECT: Screening level for Trifluoropropylmethyl dimethoxysilane
DATE: May 28, 2009

Trifluoropropylmethyl dimethoxysilane is also known as Dow Corning Z-6230 silane. The molecular formula is $C_6H_{13}F_3O_2Si$ with a molecular weight of 202 g/mol.

The following references or databases were searched to identify data to determine the screening level: U.S. Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS), National Institute for Occupational Safety and Health (NIOSH) Registry for Toxic Effects of Chemical Substances (RTECS), American Conference of Governmental and Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), Michigan Department of Environmental Quality (DEQ) library, International Agency for Research on Cancer (IARC) Monographs, Chemical Abstract Service (CAS) Online (1968 - May 2009), National Library of Medicine (NLM) - Toxline, and National Toxicology Program (NTP) Status Report.

The CAS and NLM on-line literature searches for this evaluation were conducted on May 18, 2009. There was no available toxicity studies located during the literature search for trifluoropropylmethyl dimethoxysilane.

However, Dow Corning provided an unpublished inhalation 4-hour LC50 study in Sprague-Dawley rats (Dow Corning (1992)). Groups of 5 male and 5 female Sprague-Dawley rats were exposed to 605 ppm (or 4970 mg/m³) for 4 hours following the OECD testing guidelines for 'Acute inhalation toxicity' number 403. No deaths occurred during the exposure or the 14-day observation period. The LC50 is reported to be greater than 4970 mg/m³.

The ITSL can be calculated from this acute inhalation value used as a surrogate for the LC50 in the equation in R232(1)(f), as follows.

$$ITSL = \frac{4970 \text{ mg/m}^3}{500 \times 100} = 100 \text{ ug/m}^3 \text{ annual average}$$

References:

Dow Corning. 1992. An acute vapor inhalation toxicity study of Dow Corning Z-6230 silane in rats. Report number 1992-I0000-37273.

GB:lh