

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PESTICIDES AND TOXIC  
SUBSTANCES

JUL 31 1992

MEMORANDUM

SUBJECT: OCCUPATIONAL AND RESIDENTIAL EXPOSURE DATA REQUIREMENTS  
FOR THE SULFURYL FLUORIDE DATA CALL-IN (DCI)

TO: Lois Rossi, Chief  
Reregistration Branch  
Special Review and Reregistration Division (H7508W)

and

Esther Saito, Acting Chief  
Chemical Coordination Branch  
Health Effects Division (H7509C)

FROM: Peg Perreault *Peg Perreault*  
Reregistration Section  
Occupational and Residential Exposure Branch  
Health Effects Division (H7509C)

THRU: Alan P. Nielsen, Chief *Laura Morris for Al Nielsen*  
Reregistration Section  
Occupational and Residential Exposure Branch  
Health Effects Division (H7509C)

Larry C. Dorsey, Acting Chief *Larry Dorsey*  
Occupational and Residential Exposure Branch  
Health Effects Division (H7509C)

This memorandum is in response to your request for OREB to delineate and provide justification for the additional postapplication indoor air monitoring data requirements to be included in the DCI for sulfuryl fluoride and to provide cost estimates for conducting the required studies. The following additional data are required to support the reregistration of sulfuryl fluoride:

Guideline Requirement

133-4 Indoor Air Monitoring Data (using more sophisticated analytical methods than the portable air monitoring devices used in previous studies)

Method Validation Data (for the Miran and Interscan gas analyzers, and any other method used)

**Justification:**

Sulfuryl fluoride is a highly toxic gas; the Agency has concerns regarding potential adverse effects to humans (or animals) resulting from postapplication inhalation exposure to residues of sulfuryl fluoride which may remain in indoor air after aeration to the reentry level currently required. In order to address these concerns, the registrant, Dow Chemical, has recently submitted indoor air monitoring studies (Guideline requirement 133-4) in homes fumigated with sulfuryl fluoride. The studies suggest that fumigated homes may contain low levels (ppb range) of sulfuryl fluoride for periods up to 24 hours after aeration; however, the studies are not adequate to address current Agency concerns because data on the dissipation of sulfuryl fluoride to levels below 1 ppm in fumigated homes were not provided. The available data indicate that residues dissipate rapidly and the Agency believes that air levels of sulfuryl fluoride in homes fumigated at recommended label rates should be negligible within a short period of time after fumigation and aeration. However, in order to confirm this, additional indoor air monitoring data, using more sophisticated analytical methods capable of detecting residues of sulfuryl fluoride in the ppb range, are required. The registrant should discuss the proposed analytical methods with the Agency and submit a protocol for Agency approval prior to initiation of the study.

In addition, the 1985 Registration Standard for sulfuryl fluoride required that the registrant provide documentation on the adequacy of the air monitoring devices used to detect residues of sulfuryl fluoride. Information submitted by the registrant to fulfill this data requirement has been reviewed by the Agency and was found to be inadequate. Thus, method validation data for the Interscan and Miran gas analyzers used in previous studies, as well as for any new methods used, are also required to support the reregistration of sulfuryl fluoride. The registrant's submission should include data on the sensitivity, precision, accuracy, frequency response, linearity in the range of use, stability, effects of interfering substances (if any), durability of the instrument, and ease of handling.

**Cost:**

The estimated cost for conducting the air monitoring study is \$1 million.

cc: D. Mackey/SRRD  
P. Perreault/OREB  
D. Jaquith/OREB  
L. Chitlik/OREB  
K. Baetcke/TOX I  
Sulfuryl Fluoride File