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

MAY 15 1991

OFFICE OF  
PESTICIDES AND TOXIC  
SUBSTANCES

MEMORANDUM

SUBJECT: OREB SUGGESTIONS FOR FORMATTING A DCI  
TO DETERMINE NUMBERS OF PEOPLE EXPOSED TO  
ARSENIC FROM AIR AROUND CERTAIN COTTON GINS

TO: Lisa Engstrom, Review Manager  
Special Review Branch  
Special Review and Reregistration Division (H7508W)

FROM: Arthur O. Schlosser, Chemist *Arthur O. Schlosser*  
Special Review and Registration Section  
Occupational and Residential Exposure Branch  
Health Effects Division (H7509C)

THRU: Curt Lunchick, Head *Mark Dow for*  
Special Review and Registration Section  
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Health Effects Division (H7509C)

Charles L. Trichilo, Ph.D., Chief *W. J. Jagueth for*  
Occupational and Residential Exposure Branch  
Health Effects Division (H7509C)

Please find below the OREB review of..

HED Project #: 1-1053

Reg File/Rec #: \_\_\_\_\_

Registration #: \_\_\_\_\_

Caswell #: 056

Company Name: \_\_\_\_\_

Date Received: 4/11/91

Action Code: 875

Monitoring Study Requested: \_\_\_\_\_

Reviewing Time: 2 days



INTRODUCTION

Special Review Branch (SRB) of SRRD has requested (see memo attached) that OREB/HED and BAB/BEAD provide information needed to format a DCI to send to registrants of products containing arsenic acid. The purpose of this DCI is to obtain numbers of people exposed to arsenic in air around cotton gins where cotton treated with arsenic acid is processed. There is concern over the lack of firm estimates for the numbers of cotton gin workers and the numbers of area residents living around gins of concern in Texas and Oklahoma. In addition, OPP does not have good data on air concentrations of arsenic containing particles near cotton gins or variation of air concentration with distance from the emitting gins.

SRB requests an estimate of the time and expense required to conduct such a survey even if the registrant designs the survey.

DISCUSSION/RECOMMENDATIONS

1) How should the survey be designed to include people residing within 100 meters of the gins surveyed? Would registrant be required to go door to door?

OREB response- The radius of concern may exceed 100 meters depending on gin capacity, emission controls and air movement. This needs to be determined by air sampling studies and is one of the most important factors in the estimation of exposure. OREB recommends that reliable data on the air concentration of arsenic containing particulates emitted from gins which process arsenic acid-treated cotton be developed before population surveys are initiated. A door-to-door survey may not be needed, government population records may be available at least for some locations.

2) OAQPS stated there were about 320 gins in Texas at the time of their report in 1983; no estimate was provided for Oklahoma. Since the registrant will probably not go to 320 gins, is there a way to ensure that a sample number of gins in Texas and Oklahoma will be representative of all gins.

OREB-response- Jerry Blondell of OREB suggests a questionnaire be sent to all gin operators to determine capacity, operating time, emission controls, number of workers, estimates of population in the vicinity and other relevant facts. After evaluation of responses to the questionnaire, on site surveys can be made at a limited number of selected sites to confirm the responses and develop a statistically significant data base for exposure.

3) Are you aware of any surveys that have been conducted to obtain this type of information? Is there a protocol or any type

of guidance for this type of survey? Are there any sources of information that already exist from which we could get this information (National Cotton Council, Texas A & T, etc.) ?  
OREB response- OREB is not aware of any surveys that have been conducted to obtain the type of information needed. However, the institutions mentioned and similar ones should be queried.

4) An alternative route would be to tell the registrant in the DCI that we need to know the number of gins, workers and area residents and put the burden on the registrant to design a protocol.

OREB response- This may be the most practical and convenient way to proceed. Registrant access to usage and sales data may be an advantage. The questionnaire approach mentioned above should be suggested to the registrant. The protocol must, of course, be submitted to OPP for comment and approval before any study is initiated.

OREB emphasizes again that adequate and valid data on the concentration of arsenic-bearing particles in the air around gins which process arsenic acid-treated cotton are just as important as population data for the estimation of exposure.

An estimation of the time required for and cost of acquiring the information which is mentioned in the subject of this memorandum (Number of cotton gins, cotton gin workers and residents living in the vicinity of cotton gins in Texas and Oklahoma) would be difficult to make. A rough estimate might be: a time frame of 3 to 6 months and a cost of 50 to 150 thousand dollars. The cost of adequate air sampling would be much higher.

Attachment

cc: Schlosser/OREB (H7509C)  
Taylor/TOX-HFS (H7509C)  
Miller/RD (H7505C)  
Larry Dorsey/SACB (H7509C)  
Blondell/OREB (H7509C)  
Keitt/BAB/BEAD (H7509W)  
Chemical file/Arsenic  
Correspondence  
Circulation