

Proposal For A Mortality Study Of
Midland Location Employees Exposed to Vinyl Chloride 197

Used Pursuant

Western District of New York

The Objectives

The objectives of this study will be twofold. The first objective will be to establish, for current and later followup study, a cohort of employees who experienced exposure to vinyl chloride prior to 1955. The second objective will be to examine in some detail the to-date mortality experience of this group of employees, utilizing internal company records.

The Population

With the assistance of Harold Hoyle, a number of job classifications within several departments were identified as acceptable for study. These jobs were chosen because they involved more than minimal exposure to vinyl chloride (e.g., >50 ppm). In a number of instances, measurement data were not available so that the decisions were made subjectively. Concurrent exposure to vinyl and vinylidene chloride did not rule out a job classification. However, if the exposure primarily involved vinylidene chloride, the job was not included. The tentative list of included jobs, by department, is shown in Table 1. One hundred eighty-seven men have been identified who worked in one or more of the job classifications listed in Table 1. These men were identified from annual personnel lists and will define the exposed-to-risk population for this study.

The Statistical Strategy

The cohort of employees will be subdivided into two sub-cohorts. The first sub-cohort consists of those employees who initially worked in the exposure area before 1950. The second sub-cohort consists of employees who began employment in the exposure area between January 1950 and January 1955. One reason for two groups is that better documentation of exposure levels was made after 1950.

In order to examine the relationship of mortality to both duration of exposure and interval since initial exposure, the data will be summarized according

R&S 029898

to the format shown in Table 2. The expected number of deaths will be calculated from the mortality rates observed among the cohort of 6500 Dow hourly employees. Although the exposure levels are known to vary from one job to another, and from year-to-year within jobs, in this analysis duration will be the only criterion used to quantify exposure.

Produced Pursuant to
Court Order
Case No. 140-1-301
Western District of New York

R&S 029899

Table 1. Departments and Job Classifications To Be Included In Study.

Saran Poly Semi Plant

Foreman	1947 - 1955
Polymer Operator (or equivalent)	1946 - 1955
Asst. Polymer Operator (or equivalent)	1946 - 1955
Wheel Filter Operator (or equivalent)	1946 - 1955

Saran Polymer Department (Or Equivalent)

Foreman, Shift Foreman, Subforeman*	1941 - 1950
Polymer Operator (or equivalent)	1941 - 1955
Drier Operator (or equivalent)	1941 - 1955
Assistant Operator	1944 - 1955
Tank Car Unloader (or equivalent)	1951 - 1955
Asst. Polymer Operator	1952 - 1955
Asst. Drier Operator	1952 - 1955
Plant Mechanic	1941 - 1955

Vinyl Chloride Department

Foreman	1946 - 1954
Vinyl Chloride Operator	1946 - 1954

Saran VLV2 Plant**

Shift Foreman	1952 - 1955
Polymer Operator	1952 - 1955
Coagulator Tank Wheel Operator (or Equiv.)	1952 - 1955
Drier Operator	1952 - 1955

*After 1950, personnel lists for Saran Polymer and Saran Color and Blending were combined. Thus, it was not possible to distinguish which operations the foremen were connected with. The assumption was made that foremen who were known to supervise the polymerization operations prior to 1950 continued in that section after 1950.

**To the extent that employees in Saran VLV2 had previously worked in Soluble Saran, this exposure experience will be considered additive. However, men who worked only in Soluble Saran would not be included in the study.

R&S 029900

Table 2. Proposed Format For Summarizing Mortality Experience
(A Table will be prepared for total deaths, deaths
due to malignant neoplasms and deaths due to respira-
tory cancer.)

Duration of Exposure In Years	Interval Since First Exposure	Number of Deaths			
		Cohort 1		Cohort 2	
		Observed	Expected	Observed	Expected
<1	< 15				
	15 - 19				
	20 - 24				
	25 - 32				
	Total				
1 - 5	< 15				
	15 - 19				
	20 - 24				
	25 - 32				
	Total				
>5	< 15				
	15 - 19				
	20 - 24				
	25 - 32				
	Total				

R&S 029901