

71054 7-105
October 25, 1974

To: Mr. J. L. Carvajal
Building 82-3

cc: Mr. D. W. Finn
Mr. C. E. Fry
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From: W. C. Young

Subject: Duplication of NIOSH - Conducted Survey
Resin Dust Monitoring in Workplace Environments

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R. N. WHEELER, JR.

On October 23, 1974, Mr. Ralph Zumwalde, a Research Industrial Hygienist, Dept. HEW, NIOSH, Division of Field Studies and Clinical Investigations revisited the South Charleston Plant to conduct the subject survey. Careless gross errors by the NIOSH investigating team during a previous study of our vinyl chloride activities made it necessary to repeat dust measurements.

Simultaneous, duplicate measurements were made by this department on October 23, except in one location. Only one of two workers operating packing machines in Building 177 was monitored by us. (However, as it turned out NIOSH's sample on the worker we failed to monitor is invalid.)

UCC monitoring results ranged from 1.1 to 4.6 mg/m³ of air which are below the TLV (10 mg/m³) adopted by OSHA for "Nuisance Particulates". Furthermore, workers operating packing machines and when collecting samples at the Dispersion Vinyl Resin Unit wear dust respirators as SOP. Thus, their actual breathing exposure to dust is much less than any of the measured values.

Some noteworthy comments concerning this investigation are:

1. Due to inherent limitations of the measurement method it is empirical in nature. Consequently, a significant variance in results would not be surprising.
2. Surveillance of employees and operating conditions was not maintained during the sampling periods. It was learned after the NIOSH investigators departure that his sampling train (rubber tubing) became disconnected, for an unknown duration, from the sampler pump worn by D. E. Cross at Building 177. This was discovered by an EPD staff member at approximately 1:15 p.m. He replaced the pump intake line and reported the incident at the end of the day. As a result, this particular measurement

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would be invalid. Nevertheless, for reasons stated above this interruption may not be evident and we feel no compulsion to report the incident to NIOSH.

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Attachment

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RESIN DUST MONITORING RESULTS

SOUTH CHARLESTON PLANT

October 23, 1974

<u>Sample Number</u>	<u>Type Sample</u>	<u>Employee Monitored</u>	<u>Location</u>	<u>Sampling Time, Min.</u>	<u>Concentration, mg/m³</u>
1	Personal	E. H. Barnette	Bldg. 190-1	216	4.6
2	Personal	H. D. Harrison	Bldg. 190-1	213	2.1
3	Area	-	Bldg. 190-1	208	1.1
4	Personal	R. E. Hunter	Bldg. 177-5	168	1.8

Calculation: $\frac{(W_2 - W_1) \times 10^3 \text{ mg/gm}}{F \times T \times 10^{-3} \text{ M}^3/\text{L}} = \text{Total dust, mg/m}^3$

Where, W_1 = Initial weight in grams

W_2 = Final weight in grams

F = Flow rate in liters per minute

T = Total sampling time, minutes

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