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Johnson & Johnson
BABY PRODUCTS COMPANY

RARITAN, N.J. 08869

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SUBJECT: Special Talc Studies - JBP
Respirable Particle Measurements During Adult Usage
Project #0503.01

PROTOCOL: Adult Powdering Protocol
#2636.01/6429.12

TITLE: Assessment of the Amount of Respirable Particles Available
for Inhalation During After Shower Body Powdering with
JOHNSON'S Baby Powder

TO: Mr. G. Lee

Ten adult female and ten adult male users of JBP were tested. The amount of respirable airborne particles, to which they were exposed during their normal after shower body powdering procedure, was measured.

The measurement was accomplished by sampling the air with a 10mm nylon cyclone immediately adjacent to the nasal openings during the actual powdering procedure. The mass of respirable particles collected by the cyclone was measured with a Thermo Systems 3210A quartz crystal mass monitor. The summarized data is presented below. Detail data may be found in the attached appendix.

A. Powdering Time (Exposure)

This is the time during which the subject applied the powder. It is also the time during which the respirable particle concentration measurement was made, e.g., the exposure time.

B. Powder Used

This is the weight of powder in grams the subject used from a full 9 oz. container of JBP code 240G.

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C. Average Exposure - Concentration Mg/M^3

This is the average concentration of respirable airborne particles to which the subject was exposed during powdering. It is obtained by dividing the mass of the respirable particles collected, by the volume of air sampled.

D. Peak Exposure - Concentration Mg/M^3

This is the highest average concentration to which the subject was exposed during any 10 sec. interval of the total exposure time.

Summarized Data

	10 WOMEN		10 MEN		COMBINED	
	Average	Mean	Average	Mean	Average	Mean
Powdering Time Exposure-Seconds	87.1	95.0	72.2	58.0	79.7	87.0
Powder Used-Grams	8.16	7.85	13.02	7.20	10.59	7.85
Average Exposure Concentration Mg/M^3	1.27	1.10	1.94	1.29	1.61	1.14
Peak Exposure Concentration Mg/M^3	--*	2.00	--	1.67	--	2.00

*Averages not possible since some readings exceeded the range maximum of $3.00 \text{ mg}/\text{M}^3$ on the TSI recorder.

Discussion of Data

1. The average adult exposure concentration ($1.61 \text{ mg}/\text{M}^3$) is about 8 times higher than that found for babies ($0.21 \text{ mg}/\text{M}^3$) during normal powdering and diapering. Also, the adults were exposed for a longer time period; 80 seconds as compared to 4.6 seconds for the babies.

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2. The men tended to powder in a shorter time, but used more powder and created higher airborne respirable particle concentrations, on an average, than the women.

A copy of this report is being submitted to J. Sivertson, with the request that he use the attached detail data to calculate estimates of the safety factors in the Battelle Studies when projected to adult usage.


R. S. Russell

/by
attachment - Appendix I

cc: W. H. Ashton
J. R. Marshall
R. Merz
S. Seltzer
B. Semple
W. Sherman
J. Sivertson - attachment - Appendix I & II
W. Waggoner
A. Kulkarni - Health Care - attachment - Appendix I & II