



DOW CHEMICAL U.S.A.

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PERSONNEL BREATHING ZONE SAMPLES DURING HOUSEKEEPING
PROCEDURES IN THE TALC ADDITIVE ROOM AT CPE

Summary

The operations technicians (OT) were monitored for potential exposure (dust respirators worn) to non-asbestos form talc during housekeeping procedures in the additive room at CPE. The housekeeping procedure was selected to be monitored because it appeared to be the activity creating the highest airborne concentration of non-asbestos form talc.

The personnel samples collected were all but one in excess of the Threshold Limit Value of 6.6 milligrams per cubic meter for total non-asbestos form talc and 3.3 milligrams per cubic meters for respirable non-asbestos form talc. (See data attachment.)

It should be noted that the data as of this report is rather limited, but due to the obvious housekeeping problem, corrective action should be taken. Additional monitoring of the additive room work procedures will be conducted to better characterize personnel exposure levels.

It is recommended that engineering controls be investigated to: 1) reduce excessive potential dust exposures which will eliminate the need for respirators and 2) improve housekeeping.

Sampling and Analytical

The personnel breathing zone samples were obtained by using a Millipore® 0.8 micron PVC matched weight filter attached to a Bendix Dust Cyclone Model 99 in line to a DuPont, Model P-2500, constant flow sampling pump. The pumps were calibrated before and after sampling at a flow rate of $\approx$ 2.0 liters per minute.

The samples were analyzed gravimetrically.

Results (See data attachment)

The results of sampling the OT housekeeping job at the CPE talc additive room indicated a high potential for over exposure to non-asbestos form talc.

Conclusion

Engineering controls should be investigated to reduce air-borne non-asbestos form talc dust levels during housekeeping operations to prevent possible overexposure to the personnel as well as to improve general housekeeping in the area.

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Attachment

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ATTACHMENT

DATA

Personnel Breathing Zone Samples for Non-Asbestos Form Talc at CPE

Units = Mg/m^3 TLV = Respirator Dust = $3.3 \text{ Mg}/\text{m}^3$ TLV = Total Dust = $6.6 \text{ Mg}/\text{m}^3$

Sample #	Job Class	Time (Min.)	Volume (l)	Non-Respirable Dust	Respirable Dust	Total Dust
3623	OT	390	780	67.9	>51.3*	119.2
3624	OT	240	528	6.9	2.3	9.2
3625	OT	120	240	63.5	>28.3*	91.8

*Due to the high dust levels and the high efficiency of the filter (0.8μ) used for respirable dust collection the sample filters were overloaded.

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1983 samples

① $2.4 \text{ mg}/\text{m}^3$ resp $8.8 \text{ mg}/\text{m}^3$ non-Resp $11.2 \text{ mg}/\text{m}^3$ tot.

② $2.6 \text{ mg}/\text{m}^3$ resp $9.3 \text{ mg}/\text{m}^3$ non-Resp $11.9 \text{ mg}/\text{m}^3$ tot.