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AUTHOR G. H. Flores <i>G. H. Flores</i>		PROJECT NUMBER 9008001

EVALUATION OF ASBESTOS EXPOSURES AT THE LATEX LABORATORY, 2040 DOW CENTER

INFORMATIVE SUMMARY WITH CONCLUSIONS

Asbestos exposures were evaluated at the Latex Laboratory, 2040 Dow Center. The technicians exposures to asbestos was below the Threshold Limit Value for all the asbestos handling operations. The only significant exposure to asbestos fibers and total dust occurred while the technician scooped asbestos from a fiber pak. The technician should continue to wear respiratory protection during operation.

PLAINTIFF'S EXHIBIT

DOW-530

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REVIEWED BY

H. H. Hays 9-8-71

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PROBLEM

At the request of the Latex Laboratory, 2040 Building, asbestos exposures were evaluated during various asbestos handling operations.

CONCLUSIONS

1. The technician's exposure to asbestos was below the Threshold Limit Value* for all the asbestos handling operations.
2. The only significant exposure to asbestos and total dust occurred while the technician scooped dry asbestos from the fiber pak in Lab 31. He should continue to wear respiratory protection during this operation.

PROCESS

The Latex Laboratory prepares latex bonded asbestos mats for potential use as carpet backing. The mats are prepared, using various formulations, and tested for strength characteristics.

Dry asbestos is received in fiber paks which are stored in Lab 31. Wearing respiratory protection, a technician transfers asbestos from the pak to a one gallon bucket using a hand scoop. The bucket is kept in an hood in Lab 13 when the technicians weighs the asbestos samples.

Asbestos is slurred with water and then blended with the latex formulation. The mixture is then put in a sheet former

*Threshold Limit Value - the time-weighted average concentration to which most people could be exposed daily without adverse effect.

ST0012289

where most of the water is pressed out. The resulting 1/8 inch thick sheet is put in an oven at 250°F to remove the remainder of the water. The sheet is then cut into strips for stiffness and tensile strength testing.

SAMPLING AND ANALYSIS

Two inch diameter membrane filters with nominal pore size of 0.2 microns were used to collect the asbestos sample. Air samples were collected at rates of 6.8 and 18.5 liters per minute.

The samples were analyzed by the Microscopy Laboratory (Report AL 28-287) using phase contrast and polarized light techniques at 500 x magnification. The samples were also scanned for silica and magnesium using the electron microscope. The electron microscope scans were used to distinguish the characteristics of the asbestos particles.

PRESENTATION OF DATA

Table 1 shows the technician's exposure to asbestos fibers and total dust during the various asbestos handling operations. The only significant exposure to asbestos would be in Lab 31 while the technician scoops asbestos from the fiber pak. During this same operation, the total dust concentration of 24.5 mg/M³ exceeded the Threshold Limit Value of 10 mg/M³ for a nuisance dust. The technician should continue to wear respiratory protection when handling the dry asbestos in Lab 31.

ST0012290

TABLE 1
Latex Laboratory, 2040 Building

Technician's Exposure to Asbestos Operation	Air Volume Sampled ML	Total Dust Concentration mg/M ³	Asbestos Concentration Fibers/ML
Scooping asbestos from fiber pak-Lab 31	18,400	24.5	2.28
Lab 31 background after asbestos handling completed	241,800		0.07
weighing asbestos in Lab 13 hood	56,400	0.9	0.64
Blending asbestos-latex formulation-Lab 13-near blender	555,000	0.3	0.08
Blending asbestos-latex formulation-Lab 13-technician's breathing zone	204,000	0.8	0.16
Threshold Limit Value*		10.0	5.00

*Threshold Limit Value - the time-weighted average concentration to which most people could be exposed daily without adverse effect.