



THE DOW CHEMICAL COMPANY

DOW CONFIDENTIAL

Survey of Asbestos Exposures
Western Division
Pittsburg

PLAINTIFF'S EXHIBIT

DOW-1362

ST0075316

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The use of asbestos is widespread in our present industrial society. In the Western Division, asbestos or asbestos-containing materials are used in at least the following applications:

- A. 1) pulping of Dow chlorine cells
2) rope caulking of cells
3) cement used to seal the cells
- B. 4) in pipe insulation throughout the plant
5) in cement used to repair and apply pipe insulation
6) sprayed on metal beams in plant construction as fire insulation
7) in transite wall board and pipe lines
- C. 8) as insulation blocks in gas chromatographic and other scientific instruments
9) on wire gauze and in sheets used for glassware insulation and heating
10) in the form of rope and tape for laboratory glassware insulation

The order is approximately indicative of the relative hazard or degree of exposure. This report covers only the use in the Dow cell repair (A) area of the Western Division. An additional survey is in process among the insulator-painters group (B). The most significant quantity under B use is in Kalama where most of the plant piping is enclosed in asbestos containing insulation. The C use is for information only since the hazard is very low and the asbestos is mostly in a fabricated, bonded form.

For many years the accepted TLV for asbestos fibers has been set at 5 MPPCF (million particles for cubic foot) as a total dust count. This was recently recommended to be lowered to 2 MPPCF with the increasing amount of information becoming available on long term incubation respiratory ailments after extended periods (decades) of asbestos exposure.

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Even more recently, the TLV criteria have been changed to fibers/cc values. Dr. C. G. Kramer reports a potential additional lowering of the TLV is being considered, by a factor of 6 or more to 2 fibers/cc or less.

The membrane filter method equivalents to the total solution particulate methods are listed below:

MPPCF	Fibers > 5 micron (μ) cc
5	30
2	12
1	6
1/3	2

The TLV value is defined as the time-weighted concentration for a 7 or 8-hour workday and a 40-hour workweek. They are guideline values.

The enclosed chart gives the results of the survey run on asbestos exposures in the Dow Cells - primarily the cell repair area. Columns 1, 5, and 6 give the pertinent data.

This minimum sample survey indicates that the time-weighted exposure of the cell repair workers (column 6) is well below the newly considered 2 fibers/cc TLV, even without respiratory protection. The highest current exposure is approximately 0.01 fibers/cc time-weighted average, unprotected.

An additional margin of safety can be obtained by:

- 1) analyzing and modifying present asbestos handling methods to minimize fiber exposure and contain fibers put into the air
- 2) equipping the workers with more efficient respiratory protection than the presently used "Martindale" type mask

There are additional exposures, some infrequent, which need to be measured and observed:

- 1) unloading the annual boxcar of asbestos - October
- 2) the work of insulator-painters - when available
- 3) skid assembly work
- 4) disposal of asbestos-containing materials
- 5) recheck general work area in winter when winds are prevailing easterly instead of the steady summer west wind

Our exposures are significantly lower than the Midland Cell Maintenance Exposures reported in report T34.21-21-3 of 9-9-69 by the old MPPCF method.

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