fibers within the lung. These can translocate to the abdominal cavity and to other tissues. The prognosis for asbestosis and asbestos-induced cancer is generally poor.

Risks of disease due to asbestos exposure have not been defined clearly for all occupational groups known to have significant exposure. Firm epidemiological data are available only for heavily exposed workers employed in asbestos mining, manufacturing and insulation handling. However, there is evidence that the problem is more widespread than previously believed and that workers from a variety of trades and occupations, including painters, electricians, carpenters, machinists, boiler makers, pipefitters, mechanics, welders, and others, may be at increased risk. The issue of risk of disease from asbestos exposure is further complicated in that smokers who have had asbestos exposure clearly have markedly increased risk of developing lung disease related to asbestos.

Asbestos exposures within Ford Motor Company may occur from:

- Insulated pipe covering for parts washers and cleaners, steam and hot water lines.
- Insulated coverings for boilers and associated parts in powerhouses. Drying oven and furnace insulation. Asbestos blocks, bricks, sheets, and sleeves.
- Clutch and brake linings for various machinery and transportation equipment (power presses, conveyor belts, hi-los, locomotives, tow tractors, trucks, automobiles).
- High temperature gasket materials for manifolds, pipes.
- High temperature blankets, gloves.
- Asbestos-containing parting compounds, certain talcs. Filtration media.

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Employee Exposure

Since we do not manufacture asbestos materials, exposures are primarily limited to those who work with asbestos-containing products. However, these exposures are no less significant. Employee exposure can generally occur during material handling and maintenance of asbestos-containing friction materials. Exposure can occur during grinding, sawing, sanding, drilling, or otherwise disturbing or finishing asbestos-containing products. Demolition, removal, and repair of asbestos coverings and coatings offer other sources of worker exposure. Insulation removal or repair and brake and clutch servicing can be especially hazardous.

Permissible Occupational Exposure Limits (PEL) -- Breathing Zone Concentrations

Eight-hour time-weighted average exposure: 2 fibers longer than 5 micrometers per cubic centimeter of air (2 f/cc >5 μm). Ceiling concentration: 10 f/cc >5 μm.

Ontario TWAE PEL for amosite, crocidolite, and other forms of asbestos are 0.5, 0.2, and 1.0 f/cc >5 μm, respectively. The Ontario ceiling PEL for amosite, crocidolite, and other forms are 2.5, 1.0, and 5.0 f/cc >5 μm, respectively.

Methods of Compliance

- Engineering controls, such as isolation, enclosure, local exhaust ventilation, and dust collection are required and should be used to meet the PEL.
- Compliance with the PEL may not be achieved by sole use of respirators or shift rotation except under special conditions approved by Industrial Hygiene.
- All hand and power operated tools, which may produce or release asbestos fibers in excess of the PEL, must be provided with local exhaust ventilation.
- Insofar as practicable or unless the usefulness of the product would be diminished, asbestos must be handled, mixed, applied, removed, cut, scored, or otherwise worked in a wet state. Wet methods of control are very effective in suppressing airborne asbestos fiber and dust in pipe and furnace insulation repair and demolition.