





Naturally found in 3 rock types: serpentinites, altered ultramafic rocks, and mafic rocks Known locations in the United States: Eastern, Central, and Rocky Mountain areas



Air, water, and soil

- Inhalation
 - Asbestos-containing materials
 - drywall
 - insulation
 - fireproofing
 - tiles
- Oral
- Dermal

Figure 6-1. Frequen
Derived from HazDat 2001



METABOLISM

Amphibole Fibers:

- Retained in lungs with no major changes
- Linear rise with continual exposure

Chrysotile Fibers:

- Some sort of breakdown in the lungs
- Steady-state concentration within months



Inhalation

- Larger particles do not reach the lungs
- Smaller particles can reach the lungs

Ingestion

Cleared out of the body

DISTRIBUTION

EXRETION

Inhalation

- Larger particles: Sneezed out or swallowed
- Smaller particles: Some are cleared by mucociliary transport and swallowing, others are lodged in lung tissue (half-life's vary)

Ingestion

- Go through GI tract and cleared in feces
 - If particles pass GI tract walls- they may stay in peritoneal cavity or go to the kidneys and are eliminated through urine



Figure 4. Asbestos fiber retained in lung tissue

KINETICS OF METABOLISM AND EXCRETION



DERMAL

NOT APPLICABLE

 It is highly unlikely that these fibers will pass through the skin and there are no studies of health affects after dermal exposure



A chest x-ray or CT can be used to detect early signs of lung disease caused by asbestos, but cannot detect the fibers themselves.





MECHANISMS

• The asbestos fibers become lodged in the linings of internal organs, such as the lungs, abdomen,

- These fibers then irritate and damage tissue around them
- The damaged tissues over time then develop

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