Test Method for analysis of Talc and Mineral Fibers in Cosmetics

JIFSAN Symposium – Asbestos in Talc
Moderators
– Frank Ehrenfeld & Robyn Ray
Objective

To establish concurrence on an analytical protocol for mineral fibers in cosmetics containing talc
Show of Hands

• Geologist?
• Lab Analyst?
  – Microscopist (PLM, SEM, TEM)
  – XRD
• Medical/Biological?
• Regulators
Things to consider

- Cosmetics with talc are finely milled (Fiber resolution)
- Cosmetics can have waxes and binders present, that can interfere/influence prep.
- Identification of minerals can be problematic
- Mineral habit (not assigned macroscopically, but can it be inferred?)
- Where is the cosmetic used? Lips (Ingestion) powders (Inhalation/ingestion)
- Lack of Reference standards
Analytical Techniques

- XRD
- PLM
- SEM
- TEM
- Other
Prep Options

- Homogenization
- Milling
- Sieving
- Wet/Dry
- Gravimetric Reduction

- Density Separation (ISO 22262)
- Solvent separation (Addison Davies)
- Fluidized Bed Segregator
Data Recording

• What should be considered for data recording?
  – Morphology (Session B: Measurement criteria for ID and fiber counting)
  – Interpretation (Session C: Interpretation of Testing Data)
Relevant Results

• What results are needed?
  – Units? %, Qualitative, str/g, f/cc, str/cc
  – Purpose?
    • Testing for manufacturing
    • Testing for exposure
    • Testing for regulation
    • Testing for risk/litigation
Methods amenable to cosmetics

- EPA 600-R/93/116
  - Gravimetric Reduction
  - PLM/TEM (%)