



Low-Cost, Environmentally Friendly Fire Suppression – Technology Opportunity

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Overview

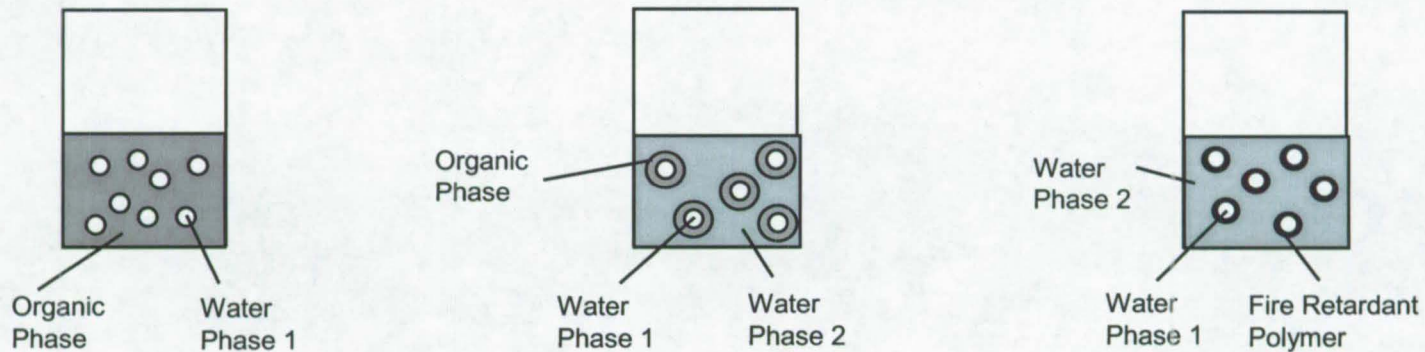
- Extinguishing Concept
- Methods Used to Prepare Agent
 - In-liquid Drying
 - Interfacial polymerization
 - Complex Coacervation
- Products
- Moisture Stability
- Performance



Extinguishing Concept

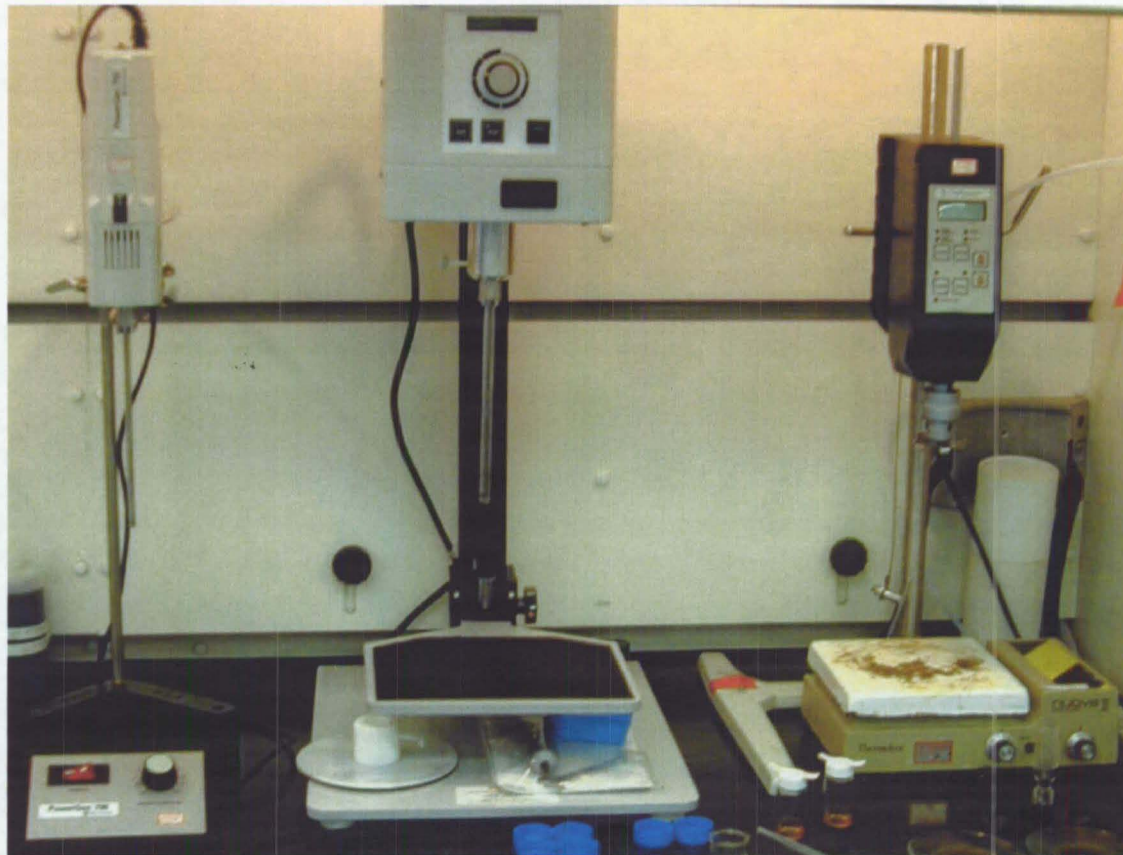
- Effects of Water
 - Energy Extraction
 - Oxygen Displacement
- Halons
 - Inhibition of Combustion Process
 - Oxygen Displacement
- Environmental Effects
 - Global Warming
 - Ozone Depletion
- Toxicity

In-liquid Drying



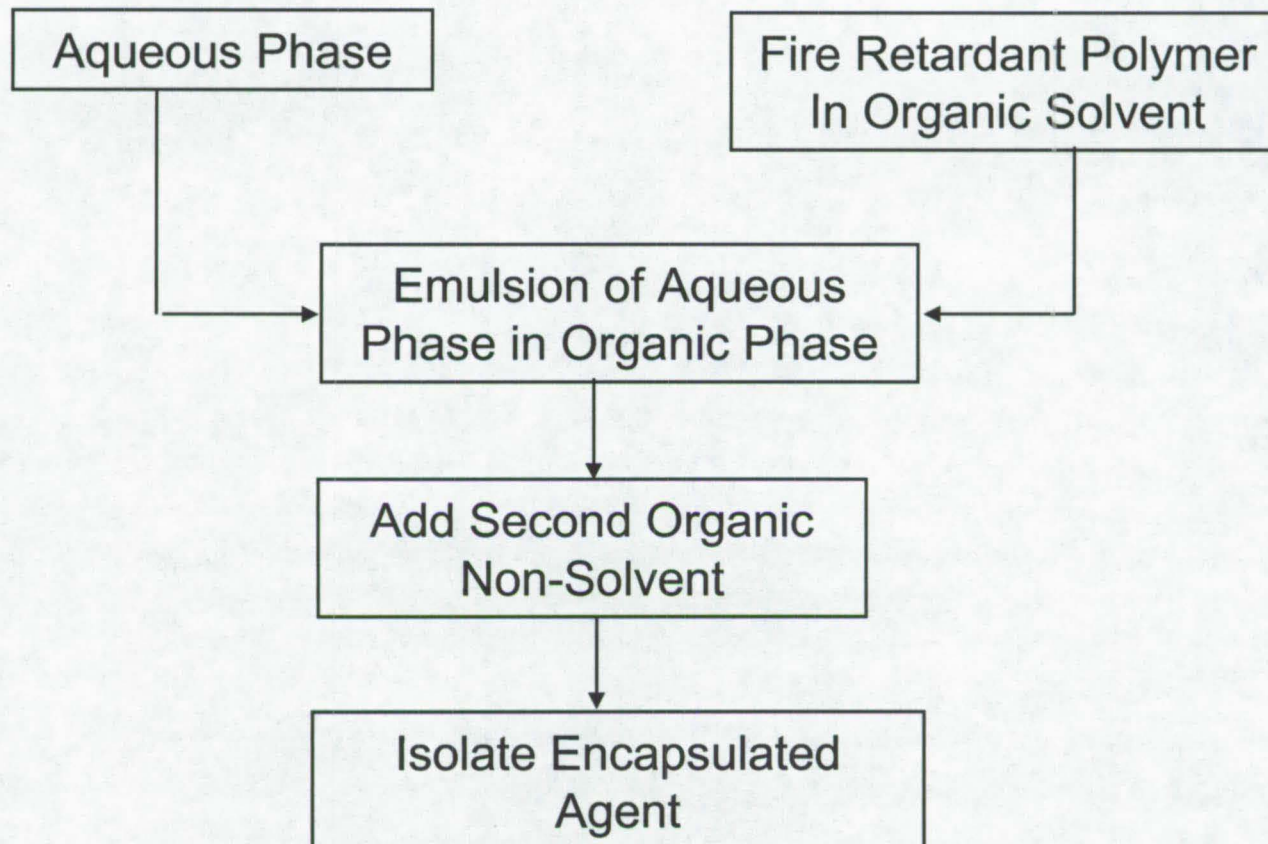
- Water Phase 1 – Encapsulated Water Solution
- Organic Phase – Fire Retardant Polymer in Organic Solvent
- Water Phase 2 – Gelling Agent in Water

Homogenizers

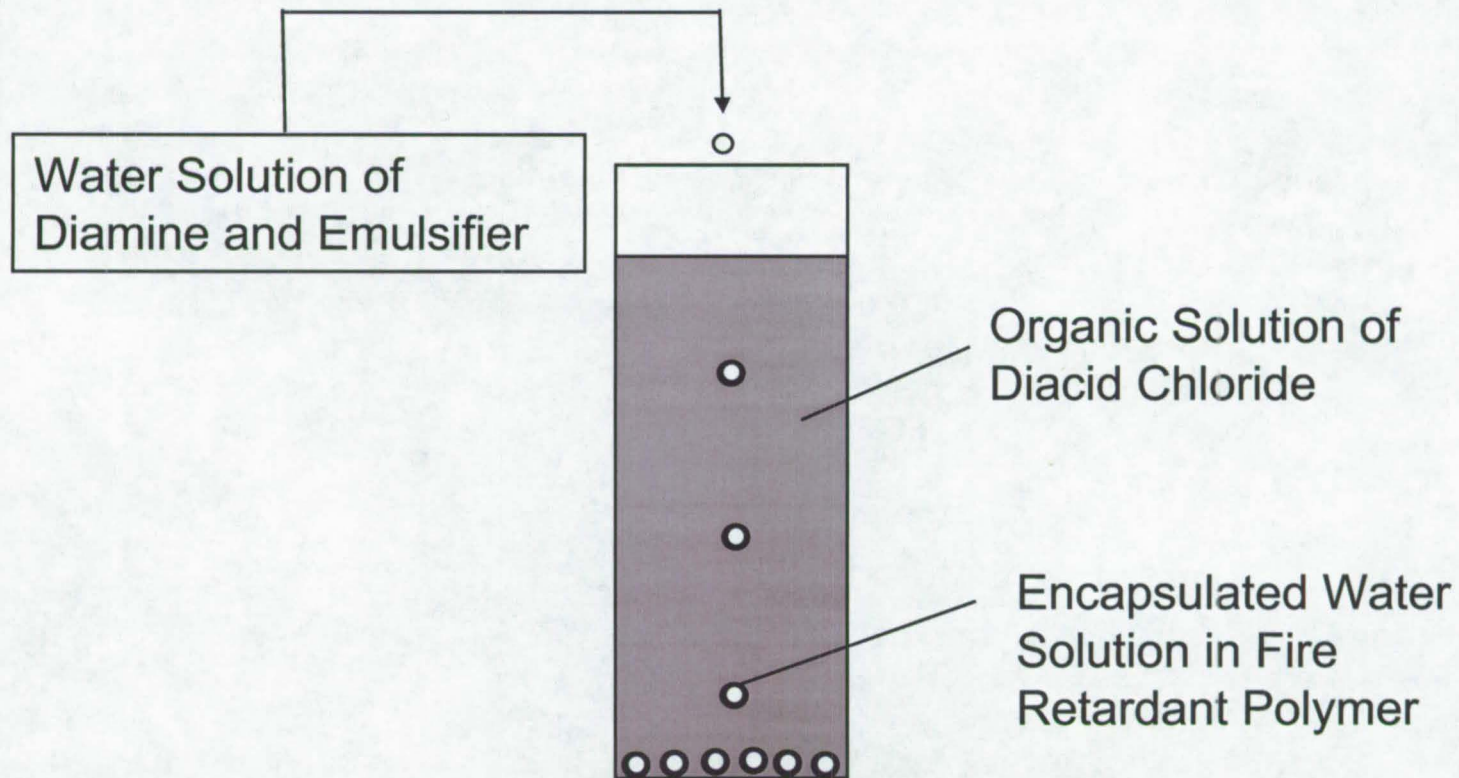




Selective Polymer Solubility

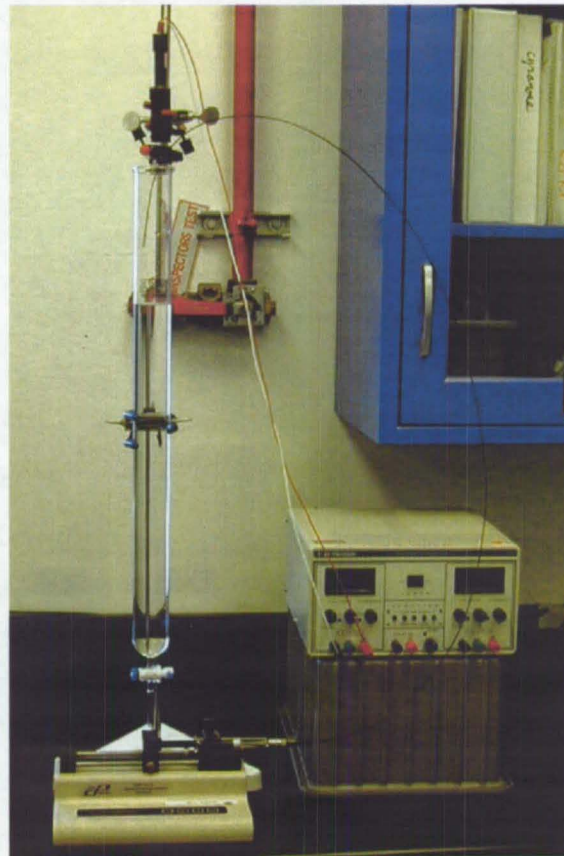


Interfacial Polymerization

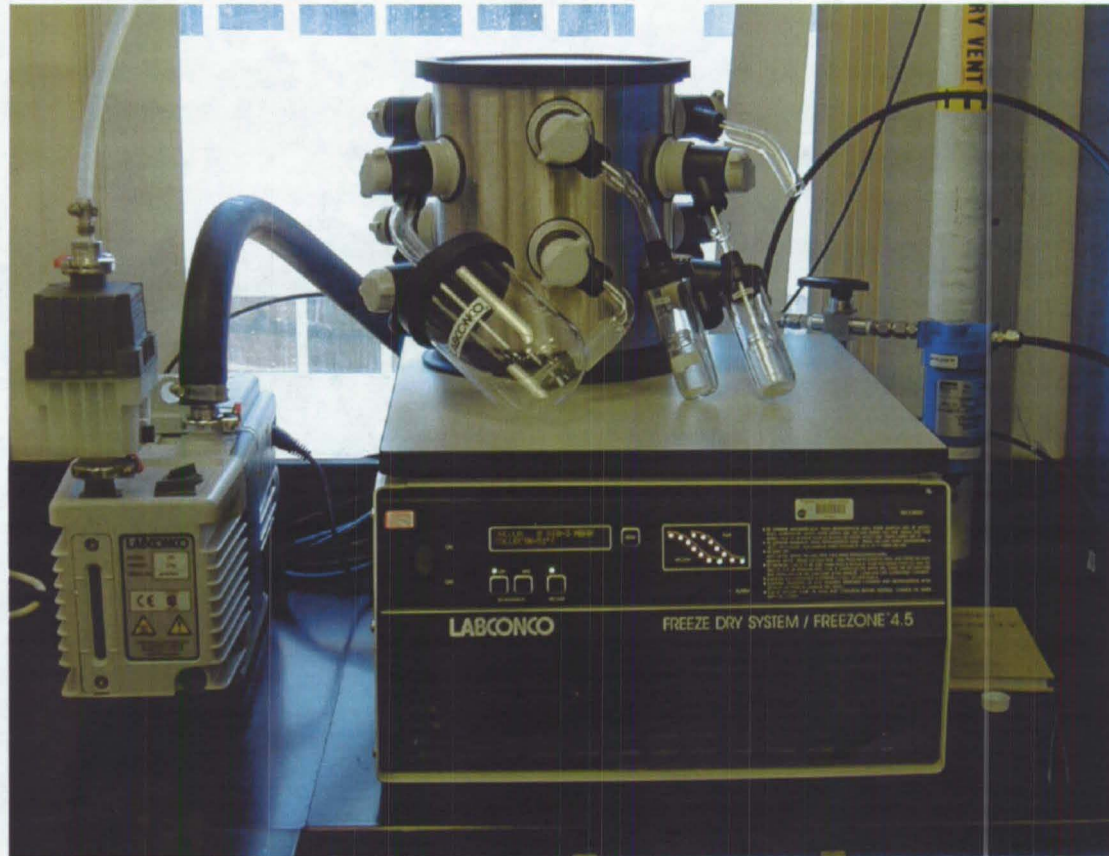




Interfacial Polymerization Drop Method

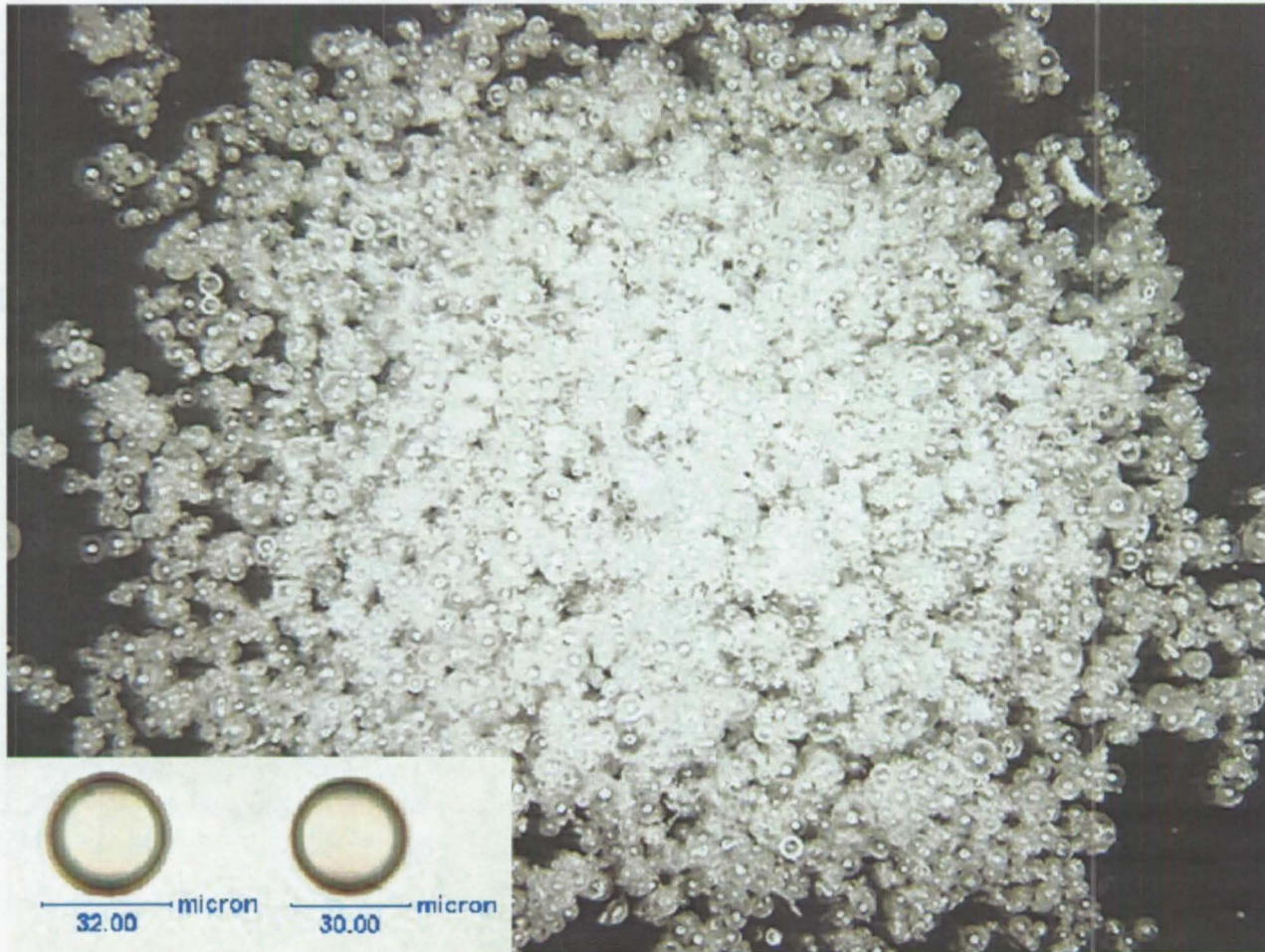


Freeze Drier





Collection of Agent Microspheres

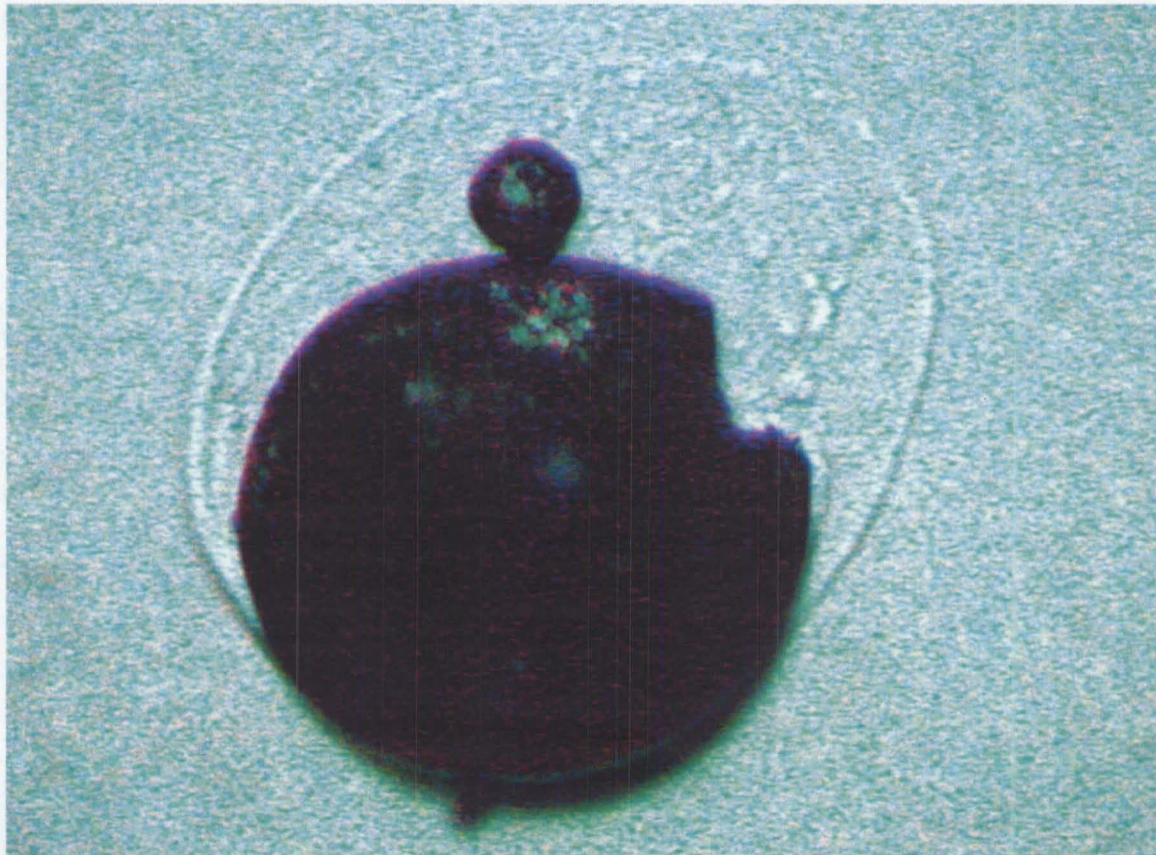


Sonic Sieve



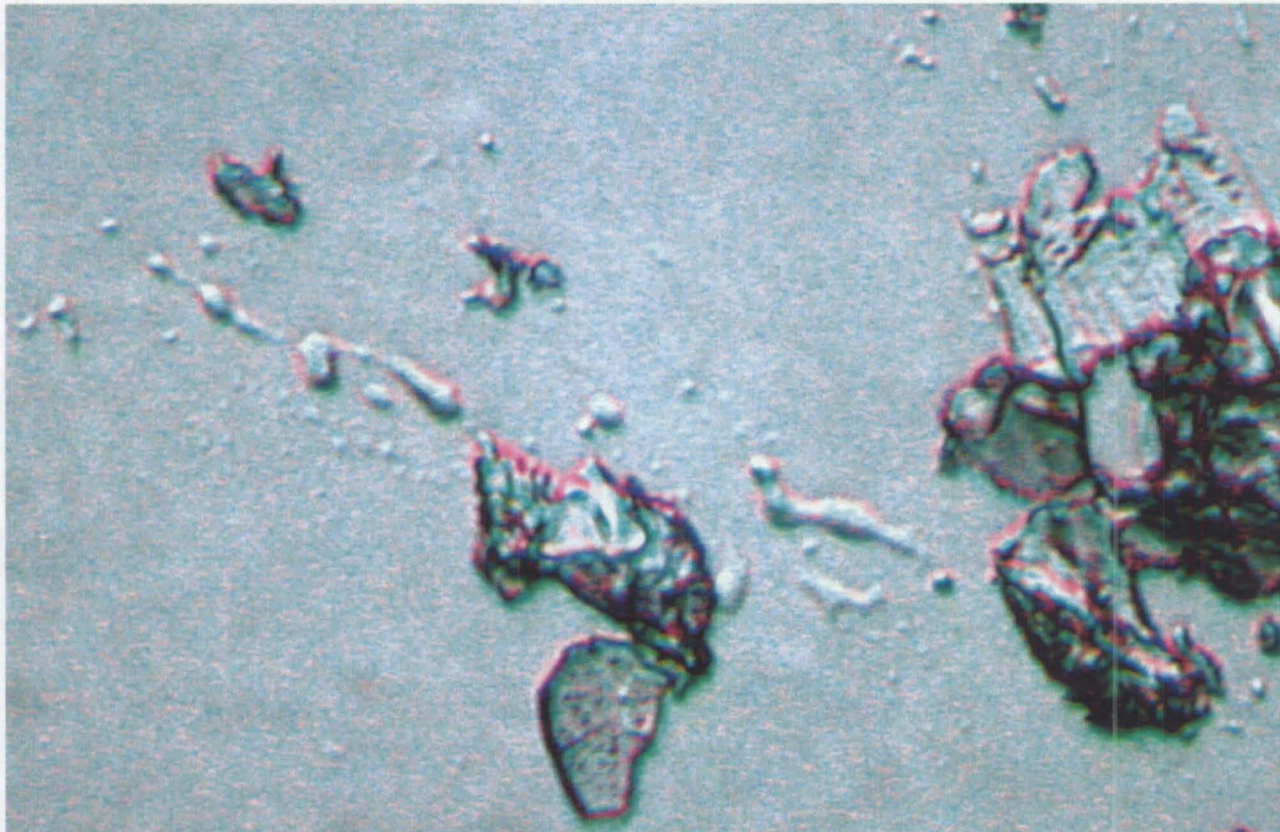


Broken Microsphere with Water





Crushed Capsule Time of Preparation





Crushed Capsule After 1 yr





John F. Kennedy Space Center

SPACEPORT
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Preliminary Performance Data

