



CATI

Center for Advanced Technology and Innovation

Solid Particle Delivery Systems

Description: Researchers at International Specialty Products, a global chemical company located in Wayne, NJ developed three patents which describe a delivery system to convert liquid pesticides into instantly dispersible solid forms. This technology enables formulating liquid active ingredients in a water dispersible granule formulation. The solid formulation can be introduced in a water soluble/dispersible bag that can be introduced directly in a spray tank. This technology avoids the use of solvents in the formulation. The technology is best suited with Chloroacetanilide (AMIDES) type herbicides and methylvinylether/maleic acid copolymers as the preferred polymeric system.

Patent Listing:

1. **US Patent No. 5,476,662**, Issued 12/19/95, "Pesticide or Herbicide Polymer Complexes for Forming Aqueous Dispersion"
2. **US Patent No. 5,679,366**, Issued 10/21/97, "Pesticide or Herbicide Polymer Complexes for Forming Aqueous Dispersions"
3. **US Patent No. 5,626,858**, Issued 08/06/97 "Pesticide or Herbicide Polymer Complexes for Forming Aqueous Dispersions"

Market Potential: The current market for formulation aids is approximately \$540 million. CATI is still in the process of reviewing other market segments and their relative sales potential.

Benefits:

- Safety (no liquid handling)
- Unique range of applications
- Convenience
- Environmentally friendlier than some liquid systems

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Applications:

- Conversion of emulsifiable concentrate formulations to solid WDG (Dual)
- Conversion of suspension concentrate encapsulates to solid WDC (Lasso)
- Conversion of newer solid delivery systems like pesticide tapes (tested in 2002)

Development Stage: Development steps include further polymer testing and formulation of products for field testing. Registration with EPA is required before commercial marketing.

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