



CATI

Center for Advanced Technology and Innovation

Environmentally Friendly Pesticide Formulation Aids

Description: Researchers at International Specialty Products, a global chemical company located in Wayne, NJ developed replacements for hazardous solvents in pesticide formulations. This unique blend of emulsifiers and solvents delivers a broad range of household and agricultural actives as microemulsions or emulsifiable concentrates. This approach eliminates the use of harmful solvents and enhances biological efficacy and formulation stability, and may deliver cost-savings as well.

Patent Listing:

1. **US Patent No. 5,283,229**, Issued 02/01/94, "Delivery System for Agricultural Chemicals"
2. **US Patent No. 5,354,726**, Issued 10/11/94, "Delivery System for Agricultural Chemicals"

Market Potential: The market potential is liquid formulations for herbicides, insecticides and fungicides, especially for active ingredients with low solubility in conventional solvents. A well published Hallcomid application is in Bayer's Folicure fungicide sold in Europe. P-H combination solvents can be also used outside EC formulations, like in tank mix additives as well as in the HI&I cleaning and other industrial applications of P-H blends is estimated to exceed \$50 million by 2005. CATI is still in the process of reviewing other market segments and their relative sales potential.

Benefits:

- Enhanced efficacy and bioavailability
- Low volatility
- Low flash point and flammability

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- Superior solvency for difficult actives
- Universal solvent/emulsifier system
- Prevent crystallization
- Lower toxicity than most solvents
- Solubilizes multiple active ingredients
- Safe replacement of toxic/hazardous solvents

Applications:

- Agricultural Market for Producers of Herbicide and Pesticide Formulations
- Consumer Market for Producers of Home and Garden Products
- Industrial and institutional cleaning formulations

Development Stage: The P-H blends are a late stage technology, ready for commercialization. For some applications, registration with EPA will be required.

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