

Soy Based Specialty Chemicals

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SOY SOLVENTS

Issues:

- Market awareness

 - Clean Gredients – Formulator database

 - Market availability

 - Get formulators to subscribe

 - Tradeshows – ICE participation

- Federal Agency registration – EPA?

 - Assist formulators register

- Life Cycle Analysis

SOY SOLVENTS (cont'd)

- Methyl Soyate Properties

 - Evaporation rate, Residual film

- New Soy Solvents

 - Application testing

 - Manufacturing/licensing

 - Sales, distribution

NEW SOY SOLVENTS (Next generation)

BioSpan Tech – Sheldon Chesky

Solvent A – Replace d'limonene, paving, singles

Solvent B

- Replace hydrocarbon solvents
- Crude oil recovery –
Canadian tar sands

Solvent C – Parts cleaning

ASPHALT REPLACEMENT

Opportunities:

Asphalt Cement –

Renewable solvents/recycled polymers

EPS, Tires, Shingles

Paving Products (6.5%)

50M bushel soy oil

Shingles (28%)

Issues:

Federal, State, Local paving specs,
Pavement test data, Manufacturing, Sales,
Distribution

CRUDE OIL RECOVERY

Canadian Tar Sands

Major oil and pipeline companies

Solvent extraction process

(Solvent B)

Pipeline transfer of crude

BIOREMEDIATION

Anaerobic bioremediation of polluted groundwater with emulsified soy oil (EOS)

3 suppliers – EOS Remediation, RNAS, Terra Systems

Pollutants – AMD, Cl_2 Solvents, Perchlorate, Explosive residues, Nitrates

Customers

Major Environmental Contractors, DOD

1 – 1.5 M lbs. soy oil/year

Used all over the world

BIOREMEDIATION

Opportunity:

AMD – Acid mine drainage

300K abandoned mines

50 superfund sites

EOS injection tailings dams

Crude Glycerine – spray on tailings piles
1.2 M lbs./mine

Perchlorates – EOS

Military bases, firing ranges

BIOREMEDIATION Issues

- EPA red tape – demo approvals
- DOD red tape
- Marketing
 - EOS Remediation
 - Trade conferences
 - Trade journal articles

BIOCIDES

Opportunities:

Moldicides/Mildewcides

Construction and restoration

Sprays & coatings

Larvicides – West Nile Virus

Methyl Soyate-based

Current field testing

BIOCIDES

Issues:

Bean-e-rid product registration
EPA, FDA requirements

Methyl soyate –
Test biocidal properties?

WNV Larvicide product registration
U.S. EPA, Canada?