2015 Onsite Wastewater Mega-Conference

Chemical Conditioning with Polymer

Presented by
Tom Frank, Tim Frank Septic Tank Cleaning Co
Tom Ferrero, Elkhart Environmental Processing

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Chemical Conditioning with Polymer
The End
OVERVIEW

- What is a Polymer
- Common Physical Forms
- Handling
- Factors Affecting Performance
What Is A Polymer?

A Polymer is a chain of organic molecules made up of many repeating units.
**What Is A Polymer?**

A Polymer is a chain of organic molecules made up of many repeating units.
Polymer Characteristics

- Molecular Structure
- Molecular Weight
- Charge
- Physical Form
Molecular Structure

- Linear
- Branched
- Cross-linked
Molecular Weight

- Low: < 100,000
- Medium: 100,000 - 500,000
- High: 500,000 - 6,000,000
- Very High: 6,000,000 - 18,000,000
Charge

- Anionic (-)
- Nonionic (neutral)
- Cationic (+)
Physical Form

- Emulsions: 25-50%
- Dry: 88-95%
Emulsion Polymer

- Water Soluble Polymer in Oil
- Shelf Life – 6 months
- Keep from Freezing
- Need to form solution in batch tank – mix for 20 minutes min
- Cleanup with high pressure water or ‘oil dry’
- VERY Slippery
Emulsion Polymer
Emulsion Polymer
Dry Polymer

- Longest Shelf Life
- Highest Active Polymer Content
- Need to form solution in batch tank – mix for 1 hour minimum
- Bags must remain sealed
- Cleanup with broom or vacuum
- NEVER add water to the spill
Dry Polymer
Dry Polymer
Factors Affecting Performance

- Polymer Charge and Molecular Wt
- Polymer Dose
- Polymer Concentration
- Polymer make-down
- Addition Point
- Solids Concentration of Septage
- Other chemicals present
Factors Affecting Performance
Factors Affecting Performance
Chemical Conditioning with Polymer