Privately held rapidly growing mid-market specialty chemical ingredients supplier

Providing customized solutions through innovation and technical expertise

Global Facilities:
- Headquarters in Chicago
- Manufacturing in US and Italy
- Sales in Asia, Europe, South America and US
- R&D in US and Italy

Bring innovative solutions to customers based on our expertise in ester chemistry, polymer science, and photostabilization

Core Competencies
- Esterification chemistry
- Polymer material modification and optimization
- Photostabilization sciences
- Nature derived solutions
- Anti-aging sciences
MARKETS SERVED

Plastics
25%
Rubber
36%
ASCI
16%
Lubes & Fluids
3%
Other
20%
APDO
19%
Soap & Bath
10%
Hair Care
19%
Skincare
25%
Suncare
15%

43 % of revenue

Rubber
36%
Plastics
25%
ASCI
16%
Other
20%
Lubes & Fluids
3%

57 % of revenue
Several monomeric and polymeric esters based on renewable raw materials have been developed

- Biopolymer modification-initial development
  PLA, PHA, PSM

- Traditional polymers also can utilize this technology
  Thermoplastics and Elastomers

- Phthalate Alternatives
  Synthetic and Renewable
The following HallStar products earned the USDA Certified Biobased Product Label:

- HALLGREEN® R-3020 with 100% biobased content
- HALLGREEN® IM-8830 with 38% biobased content
- HALLGREEN® R-8010 with 99% biobased content
- HALLGREEN® R-9010 with 100% biobased content
- PLASTHALL ® PR-A610 with 100% biobased content
### SHADES OF GREEN

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- **Cost and Performance**  
  *Plasthall® PR-series*

- **Bio Polymer - Green Focus**  
  *HallGreen® R-series Renewable*
  *HallGreen® B-series Bio-degradable*
Barriers

- Pricing—mainly due to available raw materials
- Regulatory—cost of getting TOSCA, FDA, USP, REACH registrations, especially for our size company
- Capacity—infrastructure for phthalates well established globally but minimal capacity for renewable esters
- Lack of viability of a variety of renewable raw materials to make polymer grade esters
- Outside EU no other legislative bans or restrictions on phthalate esters

Opportunities

- LEED Green Building Standard—driving wire & cable, adhesives and wall covering compounders to renewable content
- EU directive to discontinue certain phthalates
- Composting and biodegradable plastics