



**Georgia-Pacific**

Chemicals

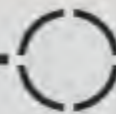
# TUFFTREK

Products for the Asphalt Industry



# Georgia-Pacific Chemicals & Flint Hills Resources

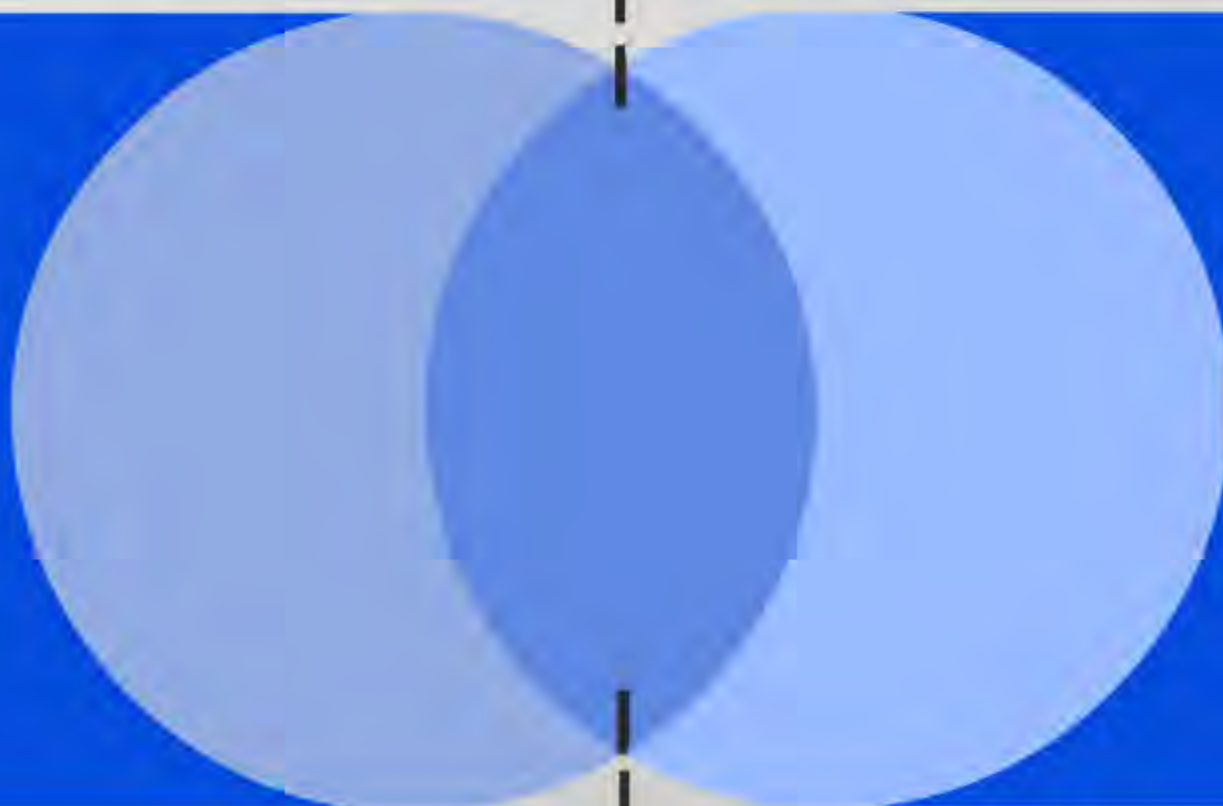
Antistrip Additives  
(TUFFTREK 2000 Series)



PG grade modification, recycling  
agents (TUFFTREK 4000 Series)



GP's capabilities in  
chemical innovation,  
manufacturing and  
marketing



Flint Hills Resources  
leadership in  
application knowledge

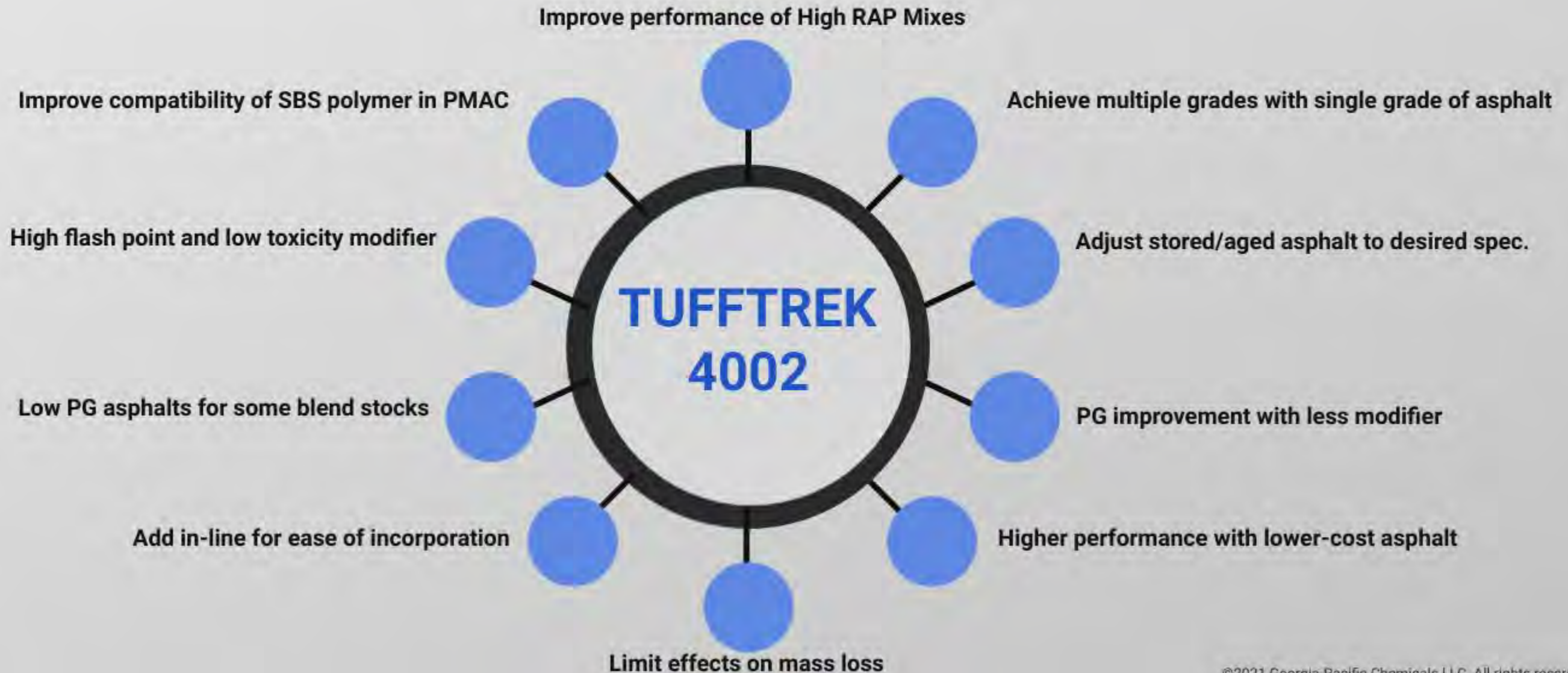
Anionic Emulsifiers  
(CTO producer)



Cationic Emulsifiers

# TUFFTREK 4002 Renewable Oil Technology

Meets the needs for asphalt modification responsibly and economically



# Liquid Amine Anti-strip TUFFTEK 2001

- Long industry history of use in asphalt as antistrip
- Effective at low dosage (0.5%)
- Koch companies back-integrated in amine production

## TYPICAL PROPERTIES

Flash Point, °C (°F) open cup 121 (250)

Amines, % 60-90%

Boiling Point, °C (°F)

100 mm Hg, with decomposition 249 (480)



# TUFFTREK 3000 Series Emulsifiers

Tall Oil for Anionic High Float Emulsifier TUFFTREK 3100

- Produced from any of GP's 9 U.S. Pulp Mills
- TUFFTREK 3100 contains 100% biobased content

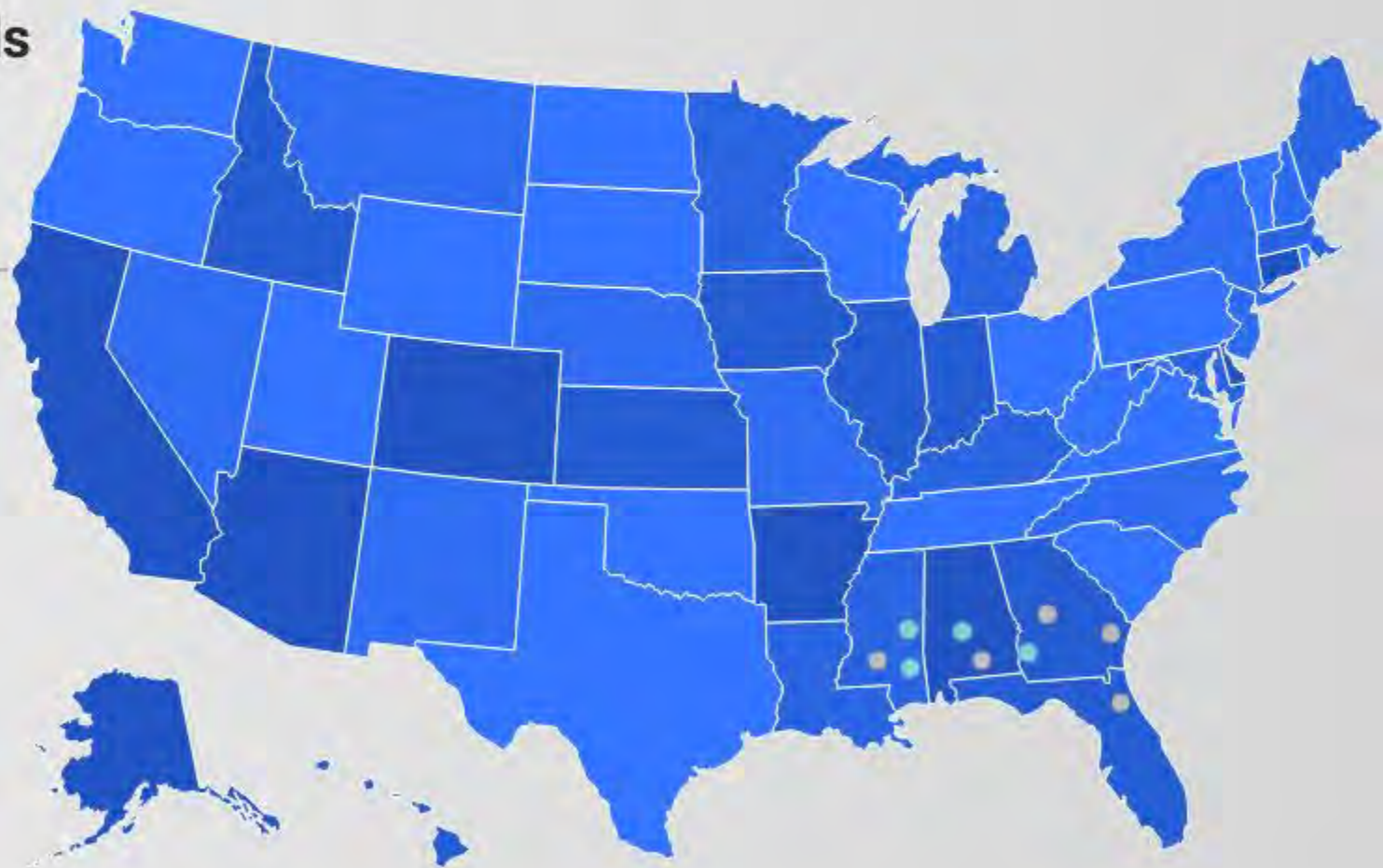
## TYPICAL PROPERTIES

Appearance Brown viscous liquid

Acid Value, mg KOH/g 160

Moisture, % 2

Rosin Acids, % 38+



Sampling of all products available upon request.

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