

Biobased Solutions for **HIGH-PERFORMANCE COATINGS**

SUSTAINABLE CHEMISTRY

Kraton is the world's largest producer of pine chemicals and specialty resins based on crude tall oil (CTO). With more than 90 years of bio-refining experience, our pine chemistry enables numerous industries to replace non-renewable resources with high-performance, biobased alternatives. CTO is a natural material with a much lower carbon footprint compared to other known vegetable alternatives. The feedstock offers other key benefits:

- Sourced from responsibly-managed forests
- Steady supply all year round
- Not edible and does not compete for land with food crops
- Not genetically modified (non-GMO)
- Does not require land-use change
- Can be Halal and Kosher certified



Our commitment to sustainability earned us a Platinum Rating from EcoVadis. This rating recognizes our company-wide sustainability efforts, which enable us to help meet market demands, advance the bioeconomy, and promote a more sustainable future through collaboration in the value chain.

LIFE CYCLE ASSESSMENTS

Kraton's life cycle assessments (LCA) on key coating products offer datadriven insights that can advance future innovation processes of customers by identifying opportunities to enhance overall product sustainability, including:

- Switching to alternative raw materials
- Introducing manufacturing process changes
- Altering specific transportation methods/routes
- Recapturing and selling a byproduct

LCA provides opportunities to collaborate more closely with suppliers, supply chain partners, and customers around their products. In particular, it enables our customers to identify ways to decrease their carbon footprint through the use of our raw materials. These advantages provide high-performance value while helping customers reduce environmental impact in their supply chains, manufacturing processes, and end-use product cycle.





Coatings with Kraton solutions are found in many everyday products, helping to provide long-term protection for enduring quality all year round. We offer a broad portfolio of performance chemicals that offer formulators and end-users a wide range of innovative technologies. Kraton is the only pine chemical provider with a global footprint. Our vertical integration in tall oil and dimer fatty acids processing makes us uniquely qualified to deliver high product consistency and performance for coating applications.

SYLFAT Tall Oil Fatty Acids (TOFA) are used in different binder systems and surfactants to achieve high-performance coating systems. TOFA delivers short hardness development time, color stability, and fast air drying properties for excellent product consistency and long-lasting aesthetics.

SYLVAT Tall Oil Fatty Acids are produced from Crude Tall Oil (CTO), a by-product from the paper pulp industry. The Global Warming Potential of this 100 percent biobased material consists of a biogenic carbon credit resulting from the CO₂ that the trees have captured during their life. It also includes some fossil GWP resulting from emissions during processing and transportation. These binders allow the coatings industry to decrease their carbon footprint, enhance performance, and develop more sustainable coatings without compromising quality.

FEATURES AND BENEFITS:

- Outstanding Surface Properties
- Fast Hardness Development
- High Initial Gloss
- Good Gloss Retention
- Fast Drying
- ► High Productivity
- Low Cycle Time
- Low Carbon Footprint
- ▶ 100% Biobased

APPLICATIONS:

- Architectural
- Decorative
- Automotive
- Transportation
- Industrial Metal & Wood
- Marine & Yacht

BINDER TECHNOLOGIES:

- ► Short, Medium & Long Oil Alkyds
- ► Epoxies and Curing Agents
- Alkyd Polyurethane Modified Binders
- Alkyd Dispersions & Alkyd Emulsions
- Polyamides



Biobased Certifications are Significant in Demonstrating Our Commitment to Sustainability.

As part of our commitment, we have obtained biobased certifications for many of our chemical products. These products are certified under the European biobased content certification scheme (based on the European standard EN 16785-1:2015) and USDA BioPreferred® Program. As we advance Kraton intends to transition all biobased certifications to the USDA BioPreferred Program.

Certifications enable us to transparently and credibly communicate about our products, providing customers with the information needed to help them in improving their product's sustainability performance.



BROAD INNOVATION PORTFOLIO

Designed to deliver performance while meeting sustainability demands, our biobased products provide enhanced corrosion resistance for improved aesthetics.

DIMER ACIDS

UNIDYME™ products are dimerized fatty acids characterized by high compositiWon consistency and constant high quality. They are designed for the manufacture of polyamide curing agents.

DISTILLED TALL OIL

SYLVATAL™ products contain 10-40 percent rosin acids. They combine the advantages of fatty acids and rosin acids – making them an ideal raw material for functional products. SYLVATAL products also help provide hardness improvement for indoor varnishes with high gloss and excellent water and alkali resistance.

FATTY ACIDS

SYLFAT™ and CENTURY™ fatty acids are useful in a wide range of industrial applications. These products have a unique degree of unsaturation and fatty acid distribution related to their region of origin. SYLFAT TOFA provides a combination of light color, good color stability and air drying properties. They are used in different binder systems and surfactants to achieve high-performance coating systems. CENTURY products can offer a variety of unique properties including low levels of unsaturation and excellent oxidative stability.

Kraton's biobased portfolio provides the coatings industry with a wide array of products to meet their needs.

POLYAMIDE

UNI-REZ[™] polyamides offer a combination of properties including excellent adhesion, pigment wetting and gloss, fast solvent release, resistance to water, chemicals and deep freeze conditions. Thixotropic polyamides provide non-drip performance, ease of use, polar-solvent resistance and increased rheology control for alkyd binder formulators.

TALL OIL ROSIN

SYLVAROS™ rosin and disproportionated rosins can be used for the manufacture of emulsifiers for the polymerization process and pigment coating. It can also be an anchoring agent, improving adhesive properties.

MALEIC MODIFIED RESIN

SYLVACOTE™ 7003 resin is a maleic modified glycerin ester of tall oil rosin used in nitrocellulose coatings for hardness and durability purposes. The material can be found in wood finishings for cabinets and lacquer sealers.



SUSTAINABLE SOLUTIONS. ENDLESS INNOVATION.™

KRATON CORPORATION

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