

ASSISTING CLIENTS TO ACCELERATE GREEN INITIATIVES



Disclosure

This report was created by Cellulose Solutions and our new brand, Verdant Innovations.

Our Specialty Chemical Solutions are sold through both of our companies, with Verdant Innovations solely selling our line of Green Chemical Formulations.

Cellulose Solutions and Verdant Innovations are not responsible for the finished consumer products sold in the market, but we are a strategic partner to our brands, retailers, mills, and manufacturers to enable them to utilize our innovations to meet their Green + Sustainability Initiatives.

Our Predictive R&D drives our innovation working with a global network of PHDs and Scientists and keeping our finger on the pulse of the worldwide changes for known and suspected hazardous components and carcinogens to bring this knowledge to our clients and the public.



Introduction

As one of the first Chemical Innovation Companies offering fully tested and proven sustainable green technologies, we are focused on reducing quaternary ammonium and 1:4 dioxane from our new line of green solutions targeting the textile, non-woven, hemp and pulp industries, as well as our existing technology. We are committed to continuing this development for all focus industries with our specialty chemical applications that directly impact human health and the environment. Our new Fibre-Pure™ solutions are derived 100% from earth's natural resources representing our first line of 100% green chemistry.

What does Green + Sustainability mean to us?

Green + Sustainability = removing the hazardous chemicals such as Quat, Ethylene Oxide, and 1- 4 Dioxane from our chemical treatments while using earth's natural resources to develop, process and enable replacement back into the earth for a clean and circular environment and providing cleaner products for human health. These suspected carcinogens and man-made chemicals are listed on FDA lists on their site. We are committed to continuing to eliminate these components from our chemistry applications and develop pure chemicals from the earth that are both sustainable and protect human health and safety.

GREEN CHEMISTRY – WHAT IS IT?



GREEN Chemistry – What is it exactly?

Cellulose is an organic compound consisting of a linear chain of several hundred to many thousands of linked D-glucose units. It is an important structural component of the primary cell wall of green plants, many forms of algae and the oomycetes. Our specialty & performance chemical applications are created from plant based and mineral forms from the earth to either replace toxic components for our clients' existing processes and/or develop green chemicals supporting our client's sustainability and green initiatives to supply consumer products that are safe and clean for our environment.

Many consumer product companies speak to having “green products” and attaining sustainability initiatives but without the full replacement of harmful chemicals in the product lifecycle from design to treatments and finishing of products, it is questionable on the degree of authenticity in this claim. Our goal is to supply sustainable and cost-effective green chemicals to achieve brand authenticity.

Our Steps to Green + Sustainability

Create a Circular Manufacturing Process: use earth's natural resources such as plants, flowers, soil, and mineral based components to develop our chemical solutions for our clients and provide a safe return of these ingredients back into the earth for sustainability.



Develop Green Chemicals: develop chemical solutions with our leading PHD's and Chemists working collaboratively with our clients to remove carcinogenic components. These chemicals developed from earth's resources are clean, sustainable, and non-toxic in makeup.

Animal Free/Non-Tallow chemistry: is applied to our Cellulose Solutions' Debonders in all solutions sold into the Pulp & Paper industries today. We are ahead of the curve in developing ingredients to replace harmful toxins and will continue to develop replacement ingredients for our products as we develop a sustainable line of green formulas under the Verdant Innovations brand. (Commercial Softeners/Debonders FDA fully listed components FDA (176.170, 176.180, 176.199)

Invest in Consumer Transparency: through education and alignment with government regulatory agencies worldwide, we are committed to keeping abreast of ongoing research and looking ahead at predictive chemistry to support the future of consumer products on behalf of our mills, manufacturers, brands, and retailers. We are dedicated to educating the public with knowledge to help drive companies to deliver transparency into product composition for more green, sustainable products and promising a bright future for many generations to come.

GREEN Consumer Products: To deliver innovative hazardous-free chemical solutions from the earth's natural resources to meet our clients' Sustainability, Green, and Biodegradable initiatives. To assist our clients to deliver cleaner and safer products to end consumers for human health while protecting the environment through manufacturing processes and waste management.



Steps to Green + Sustainability by Industry

GREEN for Textiles and Non-Woven: the highest consumer awareness and demands are coming from these industries for meeting sustainability initiatives. GenZ, Millennials and all generations are placing more importance having transparency into how products are developed and what companies are doing to protect the future to gain their loyalty and business. Verdant Innovations, a Cellulose Solutions company has created a full line of green/sustainable chemistry that would allow manufacturers, retailers, and brands to provide this visibility and authenticity to their consumers.

HEMP – From Farmers to Finished Products: as the fastest growth segment in textiles and non-woven industries, HEMP continues to grow in multiple categories across industries serving healthcare, home furnishings, apparel and more. We have developed the first degumming process and chemical application that is 100% green to support this growth in HEMP working directly with the farmers to develop a methodology that allows farmers to create substantially more product with our process. Our predictive R&D is ready to support HEMP manufacturers, brands and retailers with a Green + Sustainable chemical application that will add profitability from farming to finished goods.

GREEN for Pulp & Paper: we have replaced many toxic chemical components in our solutions with animal-free, tallow-free and quat-free chemicals developing new formulations from natural resources to minimize the toxicity used in chemical applications throughout the pulp & paper industries. Our R&D is focused on development from plants, soil, natural oils, and energy in each of our chemical applications for packaging, food applications, personal hygiene and more. The leading companies in this space have replaced toxic formulas with our clean innovation and gained high-performance and profitability in the process.

GREEN for Packaging: consumer products packaging specifically for food has become a top priority globally in chemical use and eliminating toxic carcinogenic components is essential for this industry. Our chemical formulations are all quat-free. We also adhere to the EU and US government listings and strive to remove potential toxic chemical components from our formulations. Verdant innovations, a Cellulose Solutions company, provides green chemicals for the industry under our Fibre-Pure™ line of innovation.

GREEN for Personal Hygiene: multiple products in the cosmetics and personal hygiene industries have been removed from shelves due to high levels of carcinogenic properties in the past year. As consumers become more educated about the structure of the products that they use, it will put pressure on brands and consumer goods manufacturers to adhere to more green product development. We are ready today with green chemistry to assist our clients in meeting these demands and protecting customer loyalty. We continue to develop green chemistry to add to our growing list of green innovation based on plants, soil, and energy.

GREEN for Pulp: those companies developing pulp-based products from packaging, paper, personal hygiene including items such as tissues, baby wipes, diapers and more are at the beginning of the supply chain to product safety and sustainability. Our heritage started in Pulp innovation with chemical applications, and we have remained a leader in developing safer and cleaner chemical innovation for pulp applications with animal-free, tallow-free, FDA Listed and quat-free chemical formulations. Our new Fibre-Pure™ line of green chemistry is sold under our Verdant Innovations brand.



Environmental and Safety

Cellulose Solutions and Verdant Innovations hold several certifications and continue to stay on top of all changes and suspected toxins globally, regularly adding components listed across the global regulatory agencies including the ones listed below. Our record for safety and environmental audits is one we are proud of. For the history of Cellulose Solutions and now for Verdant Innovations we have accomplished:

- No issues or incidents with WWTS, Toxins, BOD, Color
- No Pesticides or Genetically Modified Organisms
- Adhere 100% to CA Prop 65
- Production Plants ISO Certified and Audited
- OSHA Compliant
- Kimberly Clark's International Safety Audit
- Georgia Pacific's Supplier Assurance Audit
- Proctor & Gamble's Audit

Let's engage. Contact us to learn more about our ongoing Predictive Research & Analysis and how we work with our clients to accelerate their Green + Sustainability Initiatives.