

FOOD WASTE GETS A NEW LIFE AND IS REBORN AS

PLASTIC-FREE BINDERS

FOR A

SUSTAINABLE FUTURE



MADE GREEN
INSIDE
by
OrganoClick

With innovative green chemistry, we mimic nature's own solutions and create sustainable materials and products of the future with cutting-edge technical performance and functionality.

Welcome to OrganoClick and our green world where we replace plastics and toxic chemicals with 100% biodegradable and fossil-free raw materials, and produce products that are entirely green on the inside — for a sustainable future.

ORANGE PEEL, SHRIMP SHELLS, WHEAT BRAN AND OAT HUSKS

INSTEAD OF PLASTIC FOR A SUSTAINABLE FUTURE

Our innovation department continuously researches new green solutions that can replace plastics and chemicals and give products and materials a green inside. More than 10 years of research and development have resulted in us now using various residual material streams from the food industry instead of fossil-based plastics and synthetic chemicals. Pretty smart, right? For example, we use wheat bran, cellulose and potatoes as binders instead of cement in sound absorbers, and natural fatty acids from coconut and rapeseed instead of PFAS in our textile impregnations.

For our nonwoven binders, we use biopolymers, organic acids and proteins from fruit peel, shrimp shells, corn and potatoes instead of fossil-based plastic polymers. By combining these materials in different ways with our patented cellulose modification technology, we have developed a broad product family of biobased, biodegradable and plastic-free binders for nonwovens.



Maria Wennman,
R&D Director at OrganoClick.

OUR TECHNOLOGIES HAVE BEEN DEVELOPED BASED ON MILLIONS OF YEARS OF TESTING

The solutions to many environmental problems already exist around us in nature. The challenge is to find them and use them in the right way. By studying which molecules and biopolymers that provide different functions in nature, we have been able to adapt and use them in our green chemistries. For example, we have studied properties such as the mechanical strength of trees, the stiffness and hardness of crab shells, the water repellency of plant leaves and the flame retardant properties of certain grasses. Millions of years of evolution are clearly the most reliable testing regime around. And from now on, it's also a natural part of a modern green economy.



ARE MADE FROM BIOLOGICAL RAW MATERIALS AND, ARE READY TO BIODEGRADE

This is our OC-BioBinder. 100% biobased and 100% biodegradable. Made of residual materials from the food industry.

NATURE'S GREEN CHEMISTRY

Our idea is to mimic nature's own smart solutions through what is known as biomimetics. This is how we have created environmentally friendly and biodegradable green chemical alternatives to a number of fossil plastics and toxic chemicals that would otherwise be harmful to the environment. To date, we have 18 patents, a range of products and a growing number of brands. For nonwovens, we have developed a number of different patented binder techniques and hydrophobization products. The possibilities are virtually endless.

WE “CLICK”-ON FOR A SUSTAINABLE FUTURE

Our technology for modifying cellulose fibres can be used to bind various functional organic molecules to wood, textiles, nonwovens, paper and other cellulosic materials with strong chemical bonds. Fibres and functional molecules “click together” by using recently Nobel Prize-winning organocatalysis and our patented OrganoClick technology. For our nonwoven binders, biopolymers bond with fibres in the nonwoven material and create a network between, and around the fibres that give them good dry and wet strength.

A woman and a young child are walking away from the camera on a narrow dirt path through a dense forest. The woman, with her hair in a bun, is wearing a light blue t-shirt and dark shorts. The child, wearing a light blue shirt and dark pants, is holding the woman's hand. The forest is lush with green foliage, and sunlight filters through the trees, creating a dappled light effect on the path. The text "Our green future is now. When's yours?" is overlaid in white, centered in the upper half of the image.

Our green future is now.
When's yours?

WHY ARE CHEMICALS MADE FROM FOSSIL-BASED OIL? Why use plastic that is never broken down for products that are used only once and then thrown away? These were the questions two young researchers asked themselves in the mid-1990s when they began their research into natural chemical processes, known as biomimetics. It was this research that led to the foundation of OrganoClick in 2006.

Since then, we have doggedly researched green substitutes for plastic polymers and toxic chemicals to create a variety of technical functions in materials such as textiles, nonwovens, biocomposites and wood. And our persistence has paid off. Today, we are a fast-growing green industrial company. We manufacture at scales of 1,000 tonnes and deliver worldwide to customers who have chosen to replace plastics, oil and toxins with biodegradable alternatives.

This is how we enable companies and industries to reduce their ecological footprint, achieve their environmental goals, and become part of a circular economy. What are your needs and how can we help you? Join us to break new green ground and make the world a better place. The future looks green! It has to.

100%
BIODEGRADAB
FOR A
SUSTAINABLE FUTURE



THE WORLD'S FIRST FOSSIL-FREE HOME-COMPOSTABLE PREMIUM NAPKIN

We worked on developing a binder that could be used for airlaid table-top products for many years, and in 2021 we achieved this when our customer Duni decided to launch the world's first fossil-free home-compostable premium napkin.

OrganoClick is currently involved in a large number of late-stage development projects together with its customers. We anticipate that the Duni project will be the first of many nonwoven-based products that use OrganoClick's biobased, plastic-free and home compostable binders to replace fossil-based alternatives.



 **BioBinderTM**

FOR A GREEN TRANSITION

OUR PRODUCTS

We offer a variety of different binders with different mechanical properties. Our binders are available in varying degrees of softness or stiffness (Tg), with varying degrees of dry and wet strength, and as hydrophilic, hydrophobic or lipophobic. We also have binders that renders materials more fire retardant.

Our binders have varying viscosities and can therefore be applied to nonwoven or textile materials in different ways. Our binders are water-based and are applied to materials by spray impregnation, dip impregnation or coating. After application, the nonwoven materials are dried and the binder is cured at elevated temperatures to obtain dry and wet strength.

100% BIOBASED AND BIODEGRADABLE

Our products are classified as non-irritating and non-hazardous to the environment according to the European REACH regulation and CLP. Our binders are also classified as “readily biodegradable” in accordance with OECD 301A and can be used to produce 100% biodegradable and home-compostable nonwovens.

We also provide 100% biobased binders, tested and verified according to CEN/TS 16137: 2011. Several of our binders are also approved for food contact according to BfR XXXVI and FDA, Sec. 176,170 and 176,180. We also have binders that are classified as plastic-free according to the EU’s new Single Use Plastic directive (SUP).

APPLICATIONS

Our biobased and biodegradable binders are now adapted for several different nonwovens and specialty papers including airlaid, wetlaid, and carded nonwoven. We have binders that can be used for most types of fibre, such as natural fibres from wood, cotton, viscose, Tencel, hemp and pulp. We also have compostable binders that are adapted for synthetic fibres such as polyester, PLA, mineral fibres, glass fibres and blended fibres. Today, our binders are used in napkins and airlaid tablecloths, wetlaid agricultural nonwovens, wetlaid nonwovens for hygiene products, and knitted interlinings, and more.

Product	Softness/ Stiffness	Dry strength	Wet strength	Character	Fire protection	Application method	Typical applications
OC-BioBinder Lily	Soft	++	++	Hydrophilic	No	Spray, impregnation	Airlaid, wetlaid, carded
OC-BioBinder Clover	Soft	++	+	Hydrophilic	No	Spray, impregnation	Airlaid, wetlaid, carded
OC-BioBinder Pine	Stiff	+++	+	Hydrophilic	No	Spray, impregnation	Wetlaid, carded
OC-BioBinder Oak	Very stiff	+++	+++	Hydrophilic	No	Spray, wetend	Wetlaid, carded
OC-BioBinder Lotus	Soft/stiff	++	+++	Hydrophobic	No	Spray, impregnation	Wetlaid, carded
OC-BioBinder Olea	Medium	++	+	Lipophobic	No	Spray, impregnation	Airlaid, wetlaid, carded
OC-BioBinder Ashtree	Medium	++	+	Hydrophilic	Yes	Spray, impregnation	Airlaid, wetlaid, carded




“Today, we manufacture at scales of thousands of tonnes at our production facility just north of Stockholm. However, as interest in replacing fossil-based binders grows, we are currently working on increasing production to 20,000 tonnes a year and have started to look at how and where we can most efficiently add an additional 40,000 tonnes of capacity.”

Mårten Hellberg, founder and CEO of OrganoClick.



” We started OrganoClick in 2006 with the vision of enabling a plastic-free, non-toxic future based on the idea of mimicing nature’s own smart solutions with green chemistry. The chemical formula shown is a progression of the basic formula that was drawn up first, and which we use as a starting point in all our innovations; for example, for the inspired idea of making a premium napkin with a completely green inside.”

A close-up photograph of a hand holding a single slice of orange. The orange slice is perfectly round, showing its internal segments and the white pith. The hand is positioned at the bottom, with fingers gently gripping the slice. A thought bubble, consisting of three small circles leading to a larger cloud-like shape, is superimposed on the right side of the orange slice. The background is blurred, showing what appears to be a wooden surface and some indistinct shapes.

IN MY NEXT
LIFE, I WANT TO
BE A WET WIPE...

We enable companies and industry to reduce their ecological footprint, achieve their environmental goals, and become part of a circular economy. What are your needs and how can we help you? Join us to break new green ground and make the world a better place. The future looks green! It has to.

info@organoclick.com +46(0)8 674 00 80 organoclick.com



PERFORMANCE MATERIALS. INSPIRED BY NATURE.