



**PACKAGING &
PAPER SPECIALTIES**

Delivering eco-advanced solutions
for enhanced packaging and paper





/ ENHANCING PACKAGING & PAPER – IT’S OUR NATURE



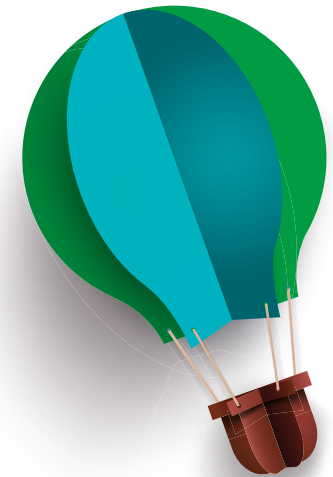
When managed and used responsibly, paper is one of most sustainable materials of our time. It’s renewable, versatile and easy to recycle. Regarding ecological footprint, it is often a vastly superior alternative to plastic – which is why many brands, retailers and shop owners have started to use paper bags instead of plastic ones.

Yet in order to effectively serve its purpose – and ideally keep on serving it many times – the paper of that bag must be strengthened and coated in a special way. And so it is with many paper or cardboard products. The pizza box that we don’t want to be soaked through with grease when we place it on our table or knees. The takeout coffee cup that’s not supposed to turn into a hot, squishy mess in our hand. All those shipping and product boxes that now travel through the world every day and have to withstand the tests of weather, handling and time.

If it weren’t for the many clever and useful ways of enhancing these products, they would very likely all be made of plastic – consuming the fossil resources of our planet and increasing its burden of potentially toxic deposits that may last up to a thousand years or more.

Whether you’re a consumer interested in what’s behind the products you use every day, or a manufacturer looking for solutions that benefit both your economic and ecological bottom line. **Discover what we do, why we do it and how you can benefit from our commitment, expertise and innovation.**

Because it’s our nature to enhance – and by doing so, both to protect nature and to make your life better and easier. Join us on our journey!



/ About Archroma

Archroma is a global color and specialty chemicals company headquartered in Reinach near Basel, Switzerland. It operates with 3,000 employees over 35 countries and with 24 production sites. Its three businesses – Brand & Performance Textile Specialties, Packaging & Paper Specialties, and Coatings, Adhesives & Sealants – deliver specialized performance and color solutions to meet customers’ needs in their local markets, touching and coloring people’s lives every day, everywhere.

Archroma is passionate about delivering leading and innovative solutions, enhancing people’s lives and respecting the planet. The company is committed to challenging the status quo in the deep belief that it can make its industry sustainable; an approach reflected in its innovations, world-class quality standards, high service levels and cost-efficiency. Products enhanced, colors enhanced, performance enhanced – “Life enhanced”.

We touch and color people’s lives every day, everywhere.

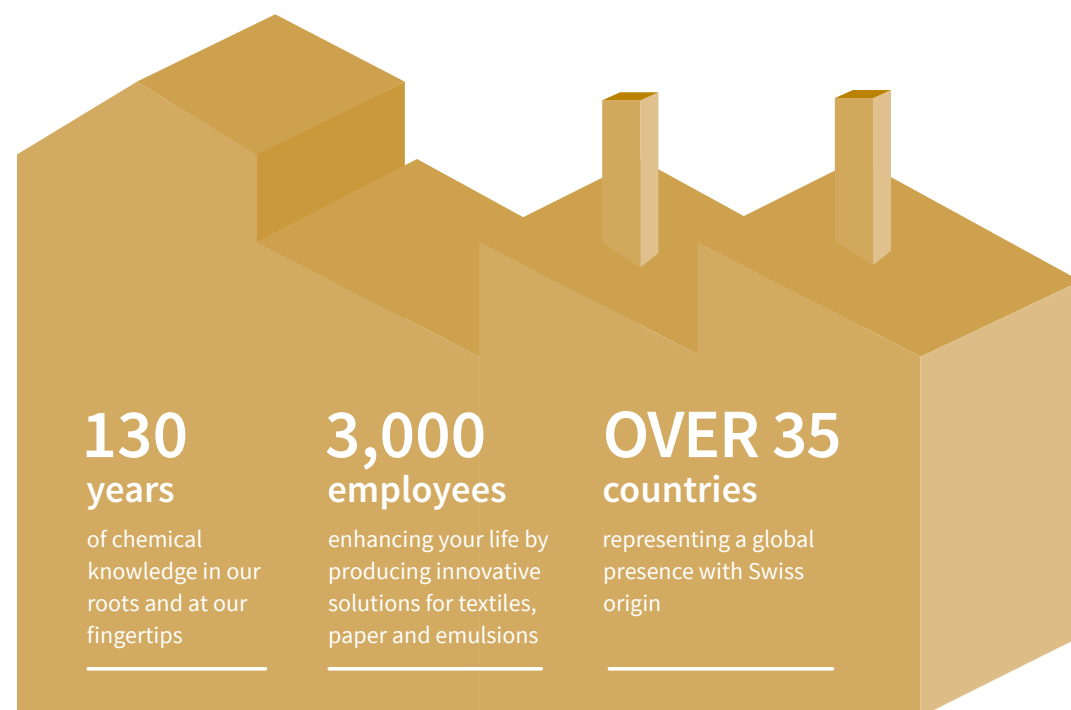
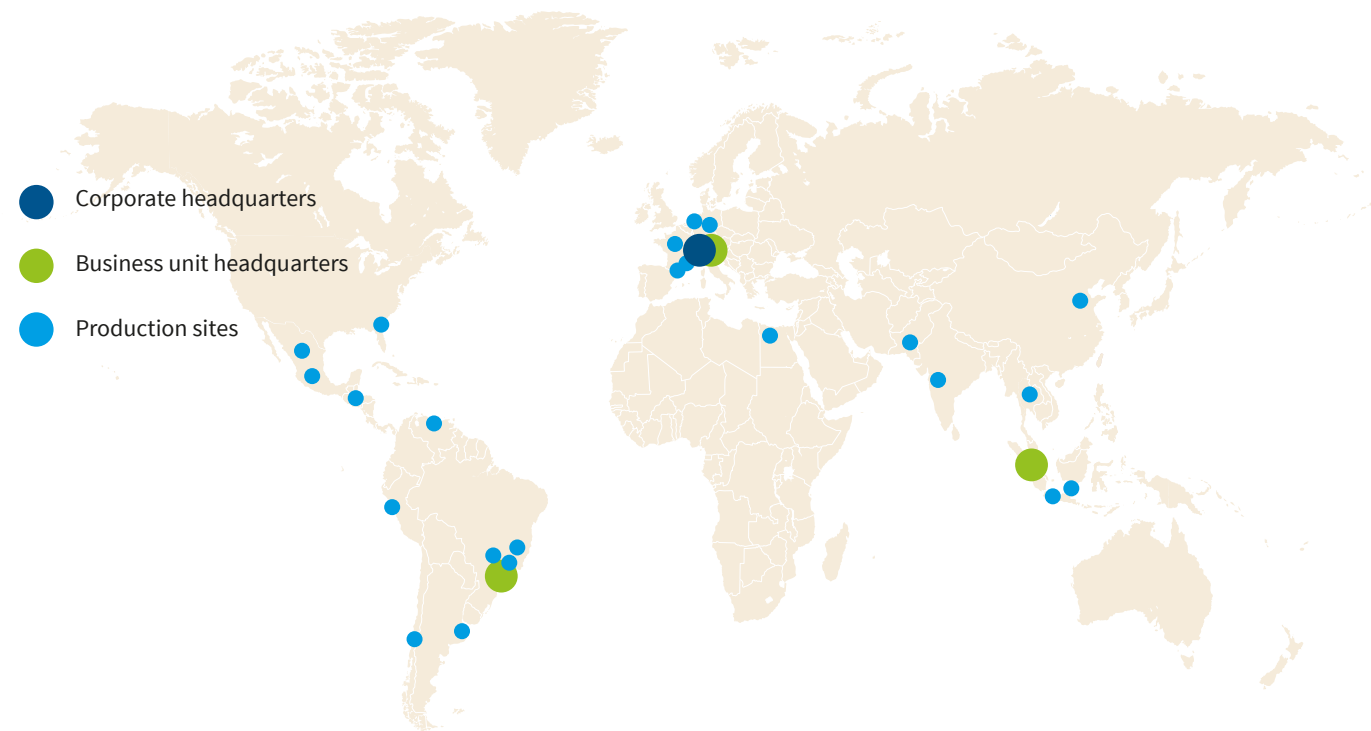
/ About Packaging & Paper Specialties

Archroma’s Packaging & Paper Specialties business provides expertise in the management of coloration, whiteness, special coatings and strength for all kinds of papers. By combining our focused product range with the application services of our paper experts around the globe, we enhance both the optical and functional properties of board and paper – with a special focus on sustainability.

We optimize production processes for our customers, and improve and innovate around our products and services after carefully listening to market needs. Depending on customer requirements regarding performance, cost and application, we can offer them a tailor-made solution to help meet their challenges.

/ WHO WE ARE

Global presence of Archroma



/ WHAT WE DELIVER

Archroma provides you with a multitude of solutions for all your needs. For a better overview, we have clustered our solutions into five main areas. The following pages show product highlights for each area, but of course these solutions boast many features that touch other areas as well – exactly mirroring our broad diversity in helping to enhance your products.



Coatings & barriers

Are you producing cardboard boxes for the growing new click-and-order lifestyle or high-white packaging for goods like washing powder, pharmaceuticals or copy paper? We have a whole range of solutions for you that make your products stronger, more attractive, more sustainable and more cost-efficient to manufacture.

The same applies to food-related products like takeout boxes or paper cups and plates: Here our FDA-approved solutions provide fluorine-conscious protection against grease, water and solvents and can even help to prevent messy slips from airplane trays.

Color

We can also help you color tissue products like napkins in a food contact-approved and environmentally friendlier way, offering a broad palette from pastel to deep shades that is unmatched in the industry. At the black end of the color spectrum, we offer intense hues with a good sustainability profile for shopping bags, shoe boxes and other premium retail packaging. **Get inspired and discover our colorants on www.colorfinder.archroma.com**

Strength

Our wet strength agents make kitchen wipes and napkins strong – even under tough conditions. And box board gets more stability thanks to our dry strength agents, or you might want to reduce fiber consumption but get the same strength for your final product.

Whiteness & printability

We provide optical brighteners for printing and writing papers that meet both the highest whiteness requirements and eco standards. We supply highly effective surface strength improvers that drastically reduce such undesirable effects as dusting and linting, in particular for paper used in magazine and news printing.

Deposit control & process optimization

Tired of pitch and stickies holding up your manufacturing processes and compromising the quality of your product? We have some very special polymers we'd like to introduce you to, which can substantially reduce your downtimes, extend the life of your equipment and all but wipe out the need for cleaning solvents.

For a fuller description of our solutions for these categories, please see the following pages. At the end of the brochure, you'll also find a selection of data sheets with detailed information on specific products.

/ SPOTLIGHT ON PACKAGING SPECIALTIES

Our idea of the perfect package deal

Stronger, more sustainable and prettier brown boxes

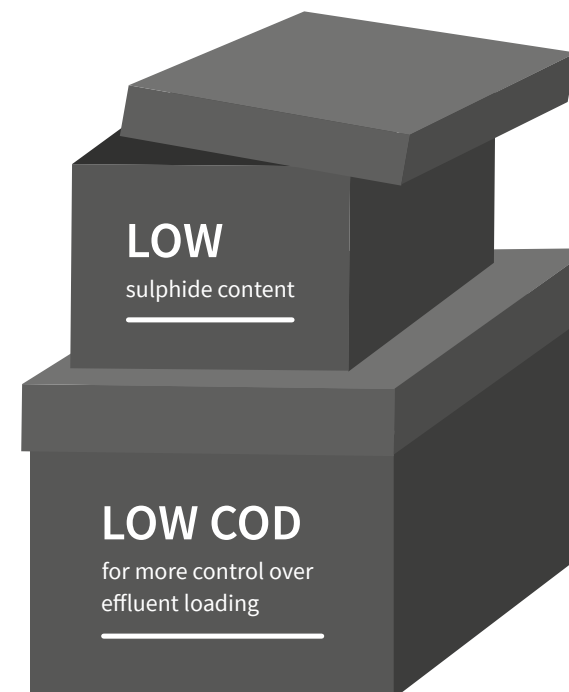
Our **Cartastrength**® process chemicals increase the stability of corrugated fiberboard and allow manufacturers to achieve high levels of dry strength with lower amounts of fresh fibers. Our coatings from the **Cartaseal**® range include fluorine-free alternatives to wax water barriers that facilitate recycling by breaking down during repulping without the need of further additives. Attractive shades can be achieved with our broad range of **Carta**® and **Cartasol**® colorants.



Whiter, more robust and recyclable packaging

For cardboard and paper used to package products like washing powder, cosmetics, cornflakes, pharmaceuticals or copying paper reams, our solutions from the **Cartaseal**® and **Cartacoat**® ranges provide a strong barrier against water and vapor that is fluorine-free and ensures recyclability (unlike polyethylene coatings and many plastic solutions).

Cartabond® crosslinkers improve the wet surface strength of white board packaging and also enhance printability, while our new, highly concentrated optical brighteners from the **Leucophor**® range combine brilliant whiteness with enormous potentials for CO₂ reduction. Great sustainability benefits can also be achieved with our **Cartaspers**® deposit control polymers, which reduce downtime and need for cleaning solvents while at the same time increasing potential use of recycled paper.



A cleaner shade of black

Our black paper dye from the **Diresul**® range offers clear advantages over conventional sulfur dyes by combining excellent technical and application properties with outstanding ecological and processing safety. Producing intense shades of black that keep backwaters clear and fastnesses high, the dye can be used for premium packaging products like luxury shopping bags and shoe boxes, but also for classy-looking laminate, decor and technical papers.

The exceptionally low sulphide content prevents unwanted hydrogen sulphide release during acidification, and a low chemical oxygen demand (COD) helps to control effluent loading during black runs.

/ SPOTLIGHT ON FOOD PACKAGING SPECIALTIES

Thinking (and eating) out of the box

Safer food packaging in every sense

When applied to food-contact products like paper cups and takeout boxes, our **Cartaseal**® coatings not only provide fluorine-free and FDA-approved protection against water and vapor, but also prevent the penetration of oils, fats and solvents.

An even stronger and longer-lasting barrier against grease and water is provided by our additives from the **Cartaguard**® series, which can be used to protect anything from fast food boxes and wrappers to pet food

packaging, molded pulp plates and boxes containing bouillon cubes. These cationic fluoropolymers have been approved for food contact both by the American FDA and Germany's Federal Institute for Risk Assessment (BfR). The series includes an additive that has been optimized for the production of molded pulp packaging and can be added to thick stock.



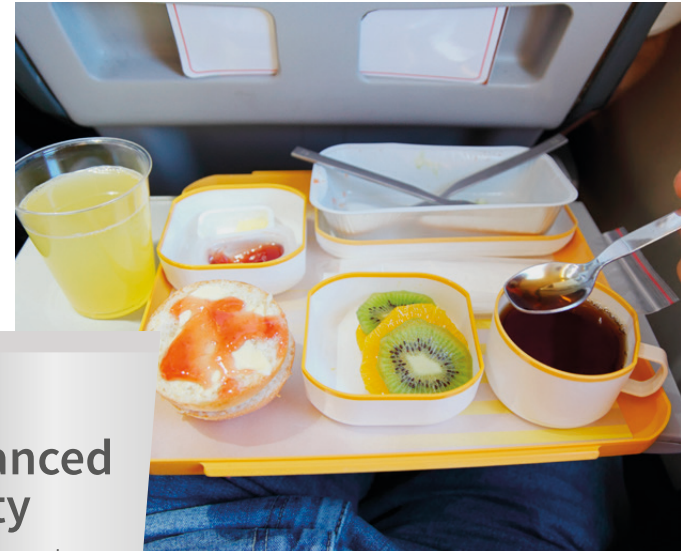
Fluorine-free & FDA-approved
water and grease protection

Highest oil and grease resistance

with fluoro technology
(PFOA below detection limit)

Slips of paper that efficiently prevent slipping

Within our **Cartaseal**® range, we've created a series of coatings that substantially increase the coefficient of friction of paper surfaces. When applied to paper mats for airplane trays for instance, they prevent cups and plates from easily sliding off during turbulence. On tertiary packaging such as the interleaving of packaged goods, they prevent unwanted movement and slippage. Making messy traveling incidents and dangerous transport accidents less likely, **Cartaseal**® antislip coatings can easily be applied by most coating and printing methods.



Enhanced safety
during transport and travel



/ SPOTLIGHT ON TISSUE SPECIALTIES

Setting the table in sustainable colors

The food-safe life of every party

New EU regulations set extremely low limits for diethanolamine (DEA) and triethanolamine (TEA) in dyed paper and board products that come into contact with food. Normally used to maintain storage stability and prevent deposits, these amines are now suspected to be mutagenic, which makes them potentially unsafe for food-contact products like deep-dyed napkins.

Within our **Cartasol**® range, we have developed several new dyes providing regulation-compliant alternatives that also reduce effluent loading and thus improve cost-efficiency and eco-profile. The range further includes a series of superior cationic direct dyes that combine excellent substantivity and bleedfastness with cleaner

backwaters and reduce costs and complexity by eliminating the need for fixatives. Where fixatives are required for anionic dyes, our **Cartafix**® series offers a full range of cationic fixing agents which not only improve backwaters and bleedfastness in dyeing processes, but are also suitable for treating anionic waste and deposits.

Quicker
color
changes
thanks to cationic
direct dyes



DEA- &
TEA-free
to ensure food
contact compliance

Compliant
with major
eco-labels
such as Nordic Swan,
Blue Angel and
EU Ecolabel

Clearer
backwaters
combined with
excellent fastnesses

Going strong, no matter if wet or dry

For white napkins and paper towels whose primary virtue is their functionality, our process chemicals from the **Cartastrength**® range provide increased wet strength that facilitates both hand-drying and after-party cleanups.

In addition to our deposit control agents, further gains in productivity in tissue production are possible with Archroma's retention products, foam control solutions and cylinder release agents.



/ SPOTLIGHT ON PRINTING & WRITING SPECIALTIES

When things have to be as clear as black and white

A brilliant solution for the environment

Bringing a new ecological focus to the field of optical brighteners, our ultra-concentrated products from the **Leucophor®** range are not only free of urea and other additives that increase nitrogen load and COD in back- and wastewaters, but can also significantly reduce both the use of brighteners and CO₂ emissions. Producing brilliant whiteness in many applications, **Leucophor®** brighteners introduce a new kind of solution to the industry that meets papermakers' needs for performance and complies with major international eco-labels.

Urea-free & ultra-concentrated

brighteners for brilliant whiteness

Less nitrogen & COD

in back- and wastewaters

Compliant with major eco-labels

such as Nordic Swan and EU Ecolabel

Up to 30% less CO₂

due to lower transportation needs



Easier use of bio-latex

in printing processes



Linking surface strength with bio-compatibility

Our **Cartabond®** crosslinkers are highly effective surface strength improvers that crosslink a wide variety of natural and synthetic binders and drastically reduce such undesirable effects as dusting, picking and linting during the printing process by lowering the amount of weakly bonded particles and fibers present in the paper surface. Suitable for offset printing, coated publication and silicone release paper grades, the crosslinkers are of particular value when replacing synthetic binders with higher levels of bio-latex.

/ SPOTLIGHT ON DEPOSIT CONTROL & PROCESS OPTIMIZATION

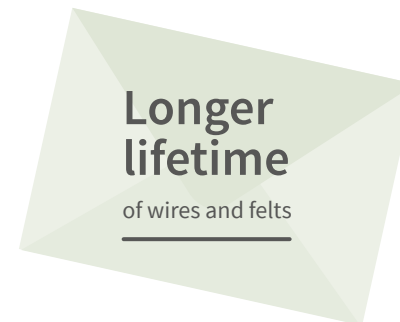
Unsticking the potential of recycled paper use

The pitch-perfect solution for a sticky old problem

Pitch and stickies are the bane of paper production and recycling. The one a result of natural resin residues in wood fibers, the other of old sticky address labels, self-sealing envelopes and other adhesive material in recycled paper, both can seriously compromise papermaking processes by clogging up machinery and causing unwanted agglomerations and deposits.

Our special polymers from the **Cartaspers®** range solve that sticky old problem in different ways. For instance, Cartaspers® SCH envelops pitch and stickie particles in a hard hydrophilic shell that prevents them from clinging to each other as well as to papermaking equipment. Easy to use and effective in a wide variety of environments, our deposit control polymers reduce downtime, improve end products and bring a host of other economic and ecological advantages.

Further gains in productivity during papermaking and pulping processes can be achieved with our fiber activation, retention and foam control solutions from the **Cartafen®**, **Cartaretin®** and **Antimussol®** ranges. In dyeing processes, our fixatives from the **Cartafix®** range improve backwaters, bleedfastness, dyestuff yield and enable production of deep shades.



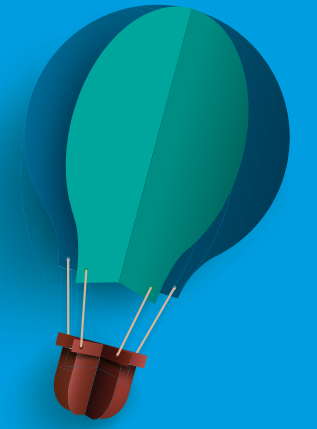
ARCHROMA
L I F E E N H

THE REAL BL

Diresul® Black

- / Intense, deep b
- / Clear backwater
- / Low sulphide c

WITH ARCHROMA'S PACKAGING & PAPER SPECIALTIES, WE TOUCH AND COLOR PEOPLE'S LIVES EVERY DAY, EVERYWHERE





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