

# NONWOVEN TECHNOLOGY



HYGIENE



MEDICAL



GEOTEXTILE



AUTOMOTIVE

**Pulcra** Chemicals  
*The solution specialist*

A woman with long brown hair, wearing a white lace-trimmed dress, is smiling and looking down. She is holding a large, flowing white fabric that billows across the right side of the frame. The background is a bright blue sky with light clouds and a glimpse of the ocean at the bottom left.

# WELCOME TO PULCRA CHEMICALS!

Pulcra Chemicals is a leading developer and manufacturer of innovative specialty chemicals for the fiber, textile and leather industries. Pulcra is creating added value for its customers by creating solutions that determine the look, touch and feel and adding functionality to our customers' materials, delivered by our team of 300 engineers from our 13 locations across the globe. We have more than 135 years of experience and partnering with customers.

Pulcra is providing the industry with application and processing solutions for effects, sustainability and efficiency. Pulcra is headquartered in Geretsried (Munich), Germany. Pulcra is committed to safety, regulatory compliance and quality programs.

## PULCRA CHEMICALS MARKET SEGMENTS



### TEXTILE

Auxiliaries for manufacturing of yarns and textile fabrics for sizing, pretreatment, dyeing, printing, softening, coating and finishing



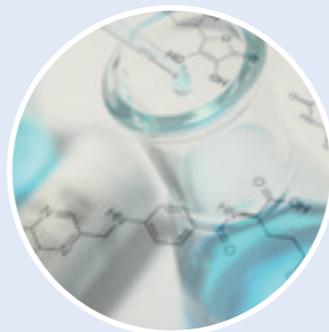
### FIBER

Auxiliaries for the manufacturing and processing of man-made fibers



### LEATHER

Leather auxiliaries for all processes in the leather and fur industries



### PERFORMANCE

Performance products for a wide variety of end-markets

## CUSTOMIZED SOLUTIONS

Our experts are frontrunners throughout the world, with comprehensive chemical research and development expertise and process know-how from start to finish.

Our laboratory teams around the world work out practice-oriented solutions in order to find tailor-made solutions. We are where the customers need us.





# WHAT ARE NONWOVENS?

Nonwovens are defined as sheet or web structures bonded together by entangling staple fibers or filaments mechanically, thermally or chemically. The fibers or filaments may be of natural or man-made origin. They are flat and porous sheets that are made directly from separate fibers or molten polymers. Nonwovens are not made by weaving or knitting and do not require the fibers to be converted to yarn.

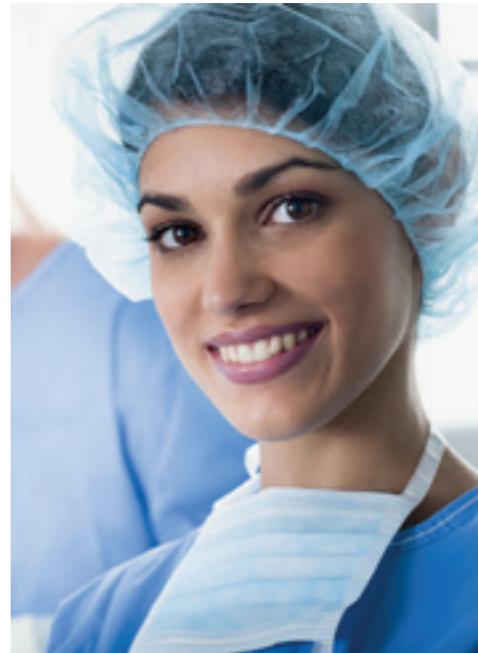
Nonwovens are engineered fabrics which may have a single use or a durable life. They provide various special qualities such as absorbency, repellency of liquids, softness, strength, resilience, stretchiness, flame retardancy, washability, filtering, bacterial barrier and sterility. These properties are often combined to make tailor made fabrics suitable for specific applications, while achieving a good balance between product shelf life and cost. They can imitate the appearance, strength and texture of a woven fabric and can be as bulky as the thickest paddings.

The combination with other materials provides a wide spectrum of products with diverse properties. These products can be used alone or as components of health care, apparel, furnishing, industrial and consumer goods.

# PRODUCTS & APPLICATIONS

Nonwovens are in almost every aspect of our daily life and society:

- Absorbent hygiene products
- Agriculture and horticulture
- Automotive
- Building
- Cable wrapping
- Civil engineering or geotextiles
- Clothing, footwear, baggage
- Filtration
- Household
- Industrial
- Industrial wipes
- Medical
- Packaging
- Personal care products
- Protective clothing





PRODUCTION



QUALITY CONTROL



TECHNICAL SERVICE

# WE KNOW HOW!

## PRODUCTION

Pulcra Chemicals provides customized high performance products and system solutions for complex manufacturing processes in the fiber and nonwoven industry. Pulcra Chemicals has several production sites around the world to ensure best supplier conditions in terms of logistics and currency. Pulcra Chemicals production sites are able to produce specialty chemicals (reactions, blending, emulsions/ dispersion).

## QUALITY CONTROL

Pulcra Chemicals offers innovative and customized specialty products with outstanding quality for the fiber and nonwoven industry. Our production facilities guarantee a high quality standard. State-of-the-art analytical equipment ensures this high quality level.

## TECHNICAL SERVICE

The complexity of the manufacturing process in the fiber and nonwoven industry requires detailed technical advice. Pulcra Chemicals has a global network of technical experts supporting their customers around the globe. Pulcra offers their customers a laboratory service for the relevant fields of application. Several technical service centers and application labs are available worldwide.



## HIGH PERFORMANCE FOR HIGH PERFORMERS

Fiber manufacturers around the world appreciate the reliability of our spin finishes which are used for a broad range of applications, including highly specialized ones and those where customer-specific solutions are required.



A specialized product range is available for a wide range of applications:

- Hygiene
- Medical
- Geotextile
- Automotive





**Some examples of where nonwovens are used in baby diapers, feminine hygiene products and incontinence products:**

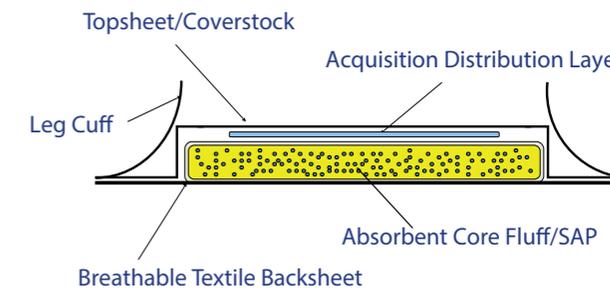
- Top sheet or coverstock
- Acquisition/distribution layer
- Core wrap
- Back sheet
- Stretch ears

## HYGIENE PRODUCTS

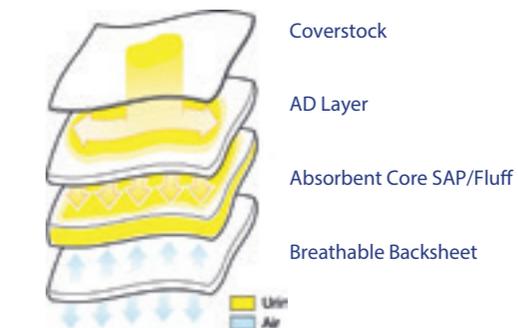
Nonwovens are widely used in personal care products such as absorbent hygiene products or wipes. The advantages of the use of nonwovens are that they provide strength and softness to the hygiene products. They make an important contribution to the performance of modern absorbent products (baby diapers, feminine hygiene and incontinence products). They ensure perfect liquid management inside the diapers whilst maintaining leakage prevention. To achieve the specific properties of the nonwoven, specific treatment is required.

Pulcra Chemicals provides a wide product range for these kinds of treatments. The products comply with CFR 21 (FDA) and EU 10/2011. The products are safety approved for these sensitive applications.

### Modern Diaper Side View



### Liquid Management inside Diaper



## ACTIVE CARE INGREDIENTS

Active care ingredients or botanical extracts are concentrated extracts usually obtained from dried-vegetable or plant materials which consist of many components.

An active ingredient can also be a pure single chemical substance.

### TREND FOR ACTIVE INGREDIENTS:

There is an increasing demand for the use of natural raw materials such as plant extracts or vegetable oils in cosmetics. Botanicals are among the top ten active ingredients in skin and hair-care formulations.

Pulcra Chemicals has developed with partners analytical methods for detection of the active ingredients. Due to the complexity of the botanical extracts, in most cases only a qualitative analysis can show the presence of the active ingredients:

### ACTIVE INGREDIENTS ARE:

- Aloe Vera
- Chamomile
- Silk protein
- Olive oil
- Vitamin E
- Green tea
- Cotton seed oil





**Some examples of where nonwovens are used:**

Surgical: disposable caps, gowns, masks, scrub suits and shoe covers

Drapes, wraps and packs

Sponges, dressings and wipes

Lab coats

Isolation gowns

Underpads

Ostomy bag liners

## MEDICAL PRODUCTS

In the medical field, nonwovens find a wide range of applications. They are the material of choice for many medical applications such as wound care, surgical and ostomy dressings. This is because of their special material properties such as absorbency, barrier against bacteria, softness, stretchiness and liquid repellancy.

Reasons for the continued growth of nonwovens in the field of medical application are protection, comfort and cost. Modern nonwovens have substituted traditional fabrics, including linens, as the medical industry looks for better barrier and aseptic materials.

Due to the fact that most nonwovens used outside of the body are disposable single-use products a sterilization or cleaning for re-use is not necessary. Disposable nonwovens are manufactured, sterilized, packaged, opened, used and then disposed of. Therefore there is less risk of contamination before and after use compared to a reusable product.

New nonwoven materials with improved finishes including liquid repellent, virus proof and anti-bacterial properties have also been developed for applications such as surgical masks, gowns and drapes, especially in view of the high demands of the new European Standards, EN 13795.



**Some examples of where nonwovens are used:**

- Road and rail building
- Hydraulic works
- Soil stabilization and reinforcement
- Soil separation
- Drainage
- Landfill
- Filtration
- Sedimentation and erosion control
- Weed control
- Plant protection
- Landscape fabric

## GEOTEXTILE PRODUCTS

Nonwovens for geotextiles are used effectively in construction and building, they are used for separation, filtration, drainage, protection and reinforcement.

They can be rolled up and are light and easy to handle, despite their strength and toughness. Geotextiles can be treated with additives which enhances water repellency and resistance against biological degradation for soil reinforcement requiring durability. Another major area for geotextiles is for optimizing the productivity of crops, gardens and greenhouses. Their protective nature means that the need for pesticides is reduced and manual work is kept to a minimum.

For this application very light and flexible sheets are laid over seed beds, which creates a microclimate in which the heat and humidity are controlled. The plant growth is accelerated and they are protected from adverse weather conditions and vermin.





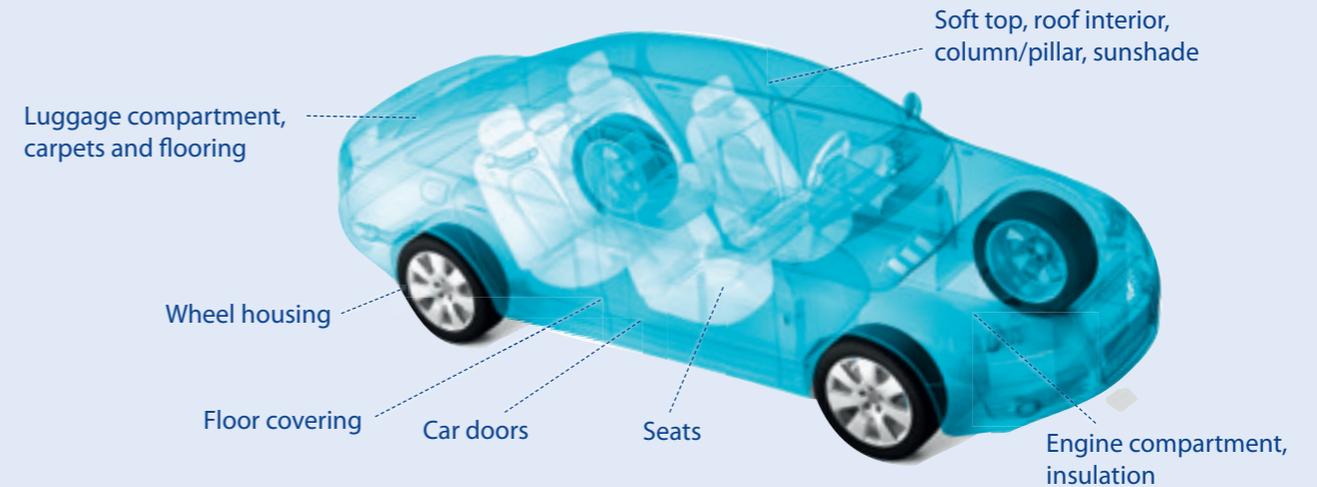
**Some examples of where nonwovens are used:**

- Acoustic control
- Insulation
- Carpets and flooring
- Seats
- Interior trim
- Soft top
- Sunshade
- Cabin air filters
- Engine
- Filtration

## AUTOMOTIVE PRODUCTS

The use of nonwovens in the automotive industry has increased significantly in recent times. Nowadays more than 40 automotive components are made with nonwoven fabrics. This includes carpets, filters and other interior materials. The use of nonwoven materials together with tailor-made properties helps to reduce the weight of cars, enhance comfort and provide advanced insulation.

Nonwovens are easy to handle during assembly. They are tailor-made for their function and can be heat-formed, embossed, lined, coated and printed.



# SUSTAINABILITY

## IN LINE WITH TOMORROW

### **SUSTAINABILITY IS A MAJOR PART OF THE PULCRA CHEMICALS PHILOSOPHY AND COMMITMENT**

Pulcra Chemicals aims to succeed as a business by increasing the productivity and environmental compatibility of complex manufacturing processes in the fiber, textile, and leather industries. This means that Pulcra addresses the regulatory requirements in most important target markets and the trends related to health, safety, ecological sustainability and innovation.

Together with our exemplary social commitment and the continuous development and training of our employees, this approach is the key to our philosophy of sustainable development.

The Pulcra Chemicals product line fully complies with Europe's newest chemical requirements (REACH). We register our products according to textile eco-standards and criteria including OEKOTEX, GOTS, and bluesign®



REGISTRATION, EVALUATION,  
AUTHORIZATION AND RESTRICTION  
OF CHEMICALS



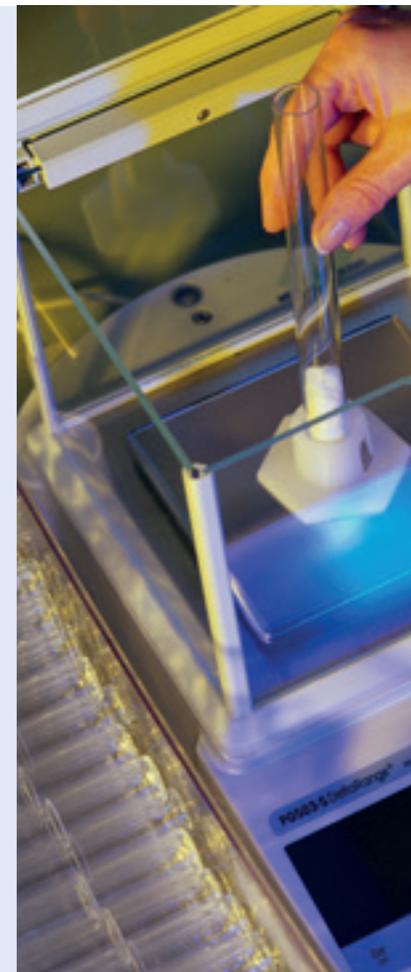
Management Service



## TECHNICAL SUPPORT

We are aware that technical service is as important as providing high performing products. As a global company, Pulcra Chemicals operates service centers in thirteen countries to provide solutions for any problems our customers may have. Our specialists support customers to meet their needs regarding new products and system operations and work out practice-oriented solutions together with the laboratory team.

If you have any questions regarding our products please contact us. We are happy to help.



# TEST METHODS

- Dynamic Contact Angle
- Run-Off
- Coverstock Wetback
- Hydro Head
- Liquid Strike-Through Time
- Sinking Time
- Absorbency
- Oil Pick-up





## WE ARE THERE WHERE OUR CUSTOMERS NEED US

**Pulcra Chemicals Group**  
info@pulcrachem.com  
www.pulcra-chemicals.com

**Pulcra Chemicals Bangladesh (Pvt.) Limited**  
Bangladesh  
Phone: +88 02 841 7817

**Pulcra Especialidades Quimicas Ltda.**  
Brazil  
Phone: +55 12 3954 6200

**Pulcra Specialty Chemicals  
Shanghai Co. Ltd.**  
China  
Phone: +86 21 6196 2666

**Pulcra Chemicals GmbH**  
Germany  
Phone: +49 8171 628 0

**Pulcra Chemicals Company Limited**  
Hong Kong  
Phone: +852 3590 9902

**Pulcra Chemicals India Private Ltd.**  
India  
Phone: +91 22 4353 7575

**PT Pulcra Chemicals Indonesia**  
Indonesia  
Phone: +62 21 778 40 988

**Pulcra-Lachiter S.r.l.**  
Italy  
Phone: +39 051 686 7020

**Pulcra Chemicals S.A. de C.V.**  
Mexico  
Phone: +01 (779) 796 98 08 / 09 / 14

**Pulcra Chemicals Pakistan (Pvt) Ltd.**  
Pakistan  
Phone: +92 42 3591 8061-3

**Pulcra Chemicals SL**  
Spain  
Phone: +34 93 817 7100

**Pulcra Kimya AS**  
Turkey  
Phone: +90 262 675 42 00

**Pulcra Chemicals LLC**  
USA  
Phone: +1 803 325 8500

**Pulcra** Chemicals  
*The solution specialist*

