Fields of specialization - chemical industry in Saxony-Anhalt

From basic chemicals to finished chemical products - the companies in Saxony-Anhalt cover the entire value-added chain of the chemical industry.

Based on its tradition, Saxony-Anhalt has succeeded in establishing itself as a driver of innovation not only in the agrochemical and pharmaceutical sectors, but also in the fields of detergents, construction chemicals, synthetic resins and fibres or industrial chemicals. Each of these special fields of chemistry is represented by competent players in Saxony-Anhalt.

Industrial Chemicals

Basic chemicals represent the core of the chemical industry. They form the beginning of the value-added chain. In Saxony-Anhalt, numerous companies provide the basic materials for the chemical industry - for example, from petrochemicals, chlorine production or ammonia to polypropylene or polyethylene terephthalate.

Specialty and fine chemicals have a long tradition in Saxony-Anhalt. There are numerous small and medium-sized companies in the state that manufacture products for the international market - on a gram to ton scale. Saxony-Anhalt's specialty and fine chemicals industry is active in many national and international markets, is highly innovative and research-strong and is deeply rooted in Saxony-Anhalt.

The production of synthetic resins and synthetic fibres has also been at home in Saxony-Anhalt for a very long time. In 1934, the first synthetic fibre in the world (Pe-Ce fibre) was produced in the Wolfen film factory at the chemical site in Bitterfeld-Wolfen. In 1938, the synthesis of caprolactam for the production of the chemical fibre Perlon was successfully completed at the Leuna chemical site. In the same year, the world's first synthetic resin ion exchanger was produced in Wolfen.

Success stories of basic chemicals

Synthetic rubber

Nouryon: Chlorine
Further companies in the basic chemicals sector

- TOTAL Raffinerie Mitteldeutschland GmbH
  Gasoline, diesel, heating oil, liquid gas, raw gasoline, aviation fuels, bitumen, methanol
  TOTAL Raffinerie Mitteldeutschland GmbH is one of the most modern refineries in Europe. It employs around 630 people and has a maximum processing capacity of twelve million tonnes of crude oil per year. In addition to gasoline, diesel and heating oil, the product range includes liquid gas, crude gasoline, aviation fuel, bitumen and methanol. The company covers the needs of approximately 1,300 filling stations in Central Germany.
  www.total-raffinerie.de

- Dow Olefinverbund GmbH
  Polyethylene, polyethylene terephthalate (PET), caustic soda
  Dow has been present in the Bitterfeld industrial park since 2007 with plants for the production of cellulose products and chemicals. In Schkopau and Böhlen, Dow has operated the ValuePark® since 1998. The ValuePark is a high-performance chemical park for plastics producers, plastics processing companies and chemical-related service providers.
  Dow Olefinverbund GmbH

- Braskem Europe GmbH
  Polypropylene
  The Schkopau plant of Braskem Europe GmbH is one of the leading and most efficient manufacturers of polypropylene in Europe and worldwide, among others in terms of energy efficiency, resource conservation and degree of capacity utilization. The Brazilian Braskem Group only acquired the Schkopau site in 2011. The plant currently has 56 employees. 350,000 tons of polypropylene are produced here annually. The plastic is used for the production of household goods, packaging and toys as well as in medicine, agriculture and the automotive industry.
  www.braskem-europe.com

- SKW Stickstoffwerke Piesteritz GmbH
  Ammonia, urea, nitric acid
  With an annual output of over five million tonnes, SKW Piesteritz produces numerous industrial chemicals on the one hand, and agrochemical specialities on the other. This makes the company one of the largest ammonia and fertilizer producers in Europe.
  www.skwp.de

- PURAGLOBE Germany GmbH
  Base oils and waste oil recycling
  Puraglobe, a subsidiary of the American company Puraglobe Inc. works according to a worldwide unique process for the production of base oils from waste oils, the patented Hylube process. With this process Puraglobe does not have to pre-treat the incoming waste oil in several steps, but can process it into high-quality oils in a continuous process.
  Infra2Zeitz: www.puraglobe.com

Success stories in specialty and fine chemicals

- ORGANICA Feinchemie GmbH
further companies in the specialty and fine chemicals sector

- **Hi-Bis GmbH**

**Bisphenol**
Hi-Bis GmbH is a joint venture between the companies Honshu Chemical Industry, Mitsui & Co. and Bayer AG and operates a production plant for special bisphenol in Bitterfeld. This product is used, for example, in the manufacture of highly heat-resistant plastics which are required for thermally highly stressable and optically demanding parts in the automotive lighting, lighting technology and electrical industries.

www.bayer.de

- **DOMO Chemicals Deutschland GmbH**

**Cumol, Phenol, Cyclohexanon and Caprolactam**
DOMO Chemicals Deutschland GmbH operates an integrated production of cumene, phenol, cyclohexanone and caprolactam in the Leuna Chemical Park. Acetone, sulphuric acid and ammonium sulphate are also produced here. In 1994, the Belgian company DOMO took over the caprolactam division of Leuna-Werke and developed it into an integrated polyamide producer.

www.domochemicals.com

- **Taminco Germany GmbH (Eastman)**

**Methylamine and Derivates**
Taminco Germany GmbH in Leuna has been a subsidiary of the Eastman Chemical Company since December 2014. In addition to the main product methylamine, the company also produces its derivatives, which are used as agrochemicals, feed additives, solvents, water treatment agents and surfactants.

www.eastman.com

**Synthetic resins and fibres**
Agrochemicals

The food industry is one of the strongest sectors in Saxony-Anhalt. It is therefore no wonder that here, the topics of plant protection, fertilizers and disinfectants have always been on the agenda of companies and research institutes. Piesteritz is an internationally established competence centre. Agricultural chemistry has been carried out at this location for over 100 years. Here is the Agro-Chemie Park Piesteritz - the first and so far only Agro-Chemie Park in Germany and one of twelve future locations in Saxony-Anhalt. The Agrochemical Institute Piesteritz e.V. (AIP), an affiliate institute of the Martin Luther University Halle-Wittenberg, conducts research here on the development and use of agrochemical products and thus provides innovative approaches for sustainable development in agriculture.

Success stories

Agro-Chemical Park Piesteritz
SKW Stickstoffwerke Piesteritz GmbH is the largest producer of ammonia and urea in Germany. The portfolio includes a wide range of agricultural and industrial chemical products. In the agrochemical sector, the company is one of the most important producers of nitrogen fertilizers in Europe. For industry, SKW Stickstoffwerke Piesteritz supplies basic chemicals such as ammonia, urea and nitric acid. The company operates one of the largest research facilities in the medium-sized chemical industry. A total of around two million tons of chemical products leave the factory premises every year. Above all, the agricultural application research carried out in SKW’s own research department enjoys the highest international recognition.

www.skwp.de

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www.domochemicals.com

Pharmaceutical Chemicals

In a global comparison, Germany is a strong location for the chemical-pharmaceutical industry. And Saxony-Anhalt, as an established pharmaceutical and pharmaceutical substance location, contributes its share to this success. The chemical industry of Saxony-Anhalt offers a wide range of pharmaceutical precursors. Here, novel active ingredients for drugs are created, innovative production technologies are developed and optimized and the foundations for the medicine of the future are laid.

Success stories
Vaccines for the world

Aesthetic products

Vivoryon Therapeutics

Other pharmaceutical chemistry companies
Chitosan - raw material for innovative medical products

The Hidden Champion Heppe Medical Chitosan on the weinberg campus in Halle (Saale) produces high-purity chitosan as a raw material for the pharmaceutical industry worldwide. Biodegradable biopolymers as an alternative to oil-based materials are on everyone’s lips and are already used in a wide variety of products such as packaging and films.

Chitosan, a biopolymer that is still relatively unknown to the public, offers countless areas of application. In the medical field, for example, it improves wound healing as a component of wound dressings and dissolves naturally as suture material at the desired time.

Chitosan - raw material for innovative medical devices

The world market leader for high-quality Chitosan is based in the weinberg campus technology park in Halle (Saale). Heppe Medical Chitosan manufactures chitin, chitosan and chitosan derivatives for customers in the pharmaceutical industry and conducts research into chitosan and its various fields of application.

Production of chitin and processing into chitosan

Chitin is a plant-based polysaccharide that can be obtained, for example, from the exoskeleton of crab shells, which are produced annually in large quantities as a waste product from crab fishing. The shells are cleaned to remove all foreign substances. Chitosan is obtained by deacetylation of the chitin, from which various chitosan derivatives can be produced by further reaction.

The founder of the company, Katja Richter, already conducted research into chitosan as a drug-delivery system for overcoming the blood-brain barrier during her studies. The biopolymer chitosan can be used as a transport vehicle to bring drugs to their place of action inside the body in a targeted manner and in sufficient concentration.

During her research Richter noticed the lack of quality and reproducibility of the Chitosan products available on the market. That is why she founded Heppe Medical Chitosan GmbH more than 15 years ago at weinberg campus near Martin Luther University Halle-Wittenberg. Good support from “Univentions” start-up service, the opportunities for cooperation and the advantages of the location’s existing, compact structures were decisive factors in its choice of location.

Worldwide market for the universal product

The main business of Heppe Medical Chitosan is the worldwide supply of the raw material Chitosan to small and medium-sized companies as well as to globally operating corporations. Most customers are located in America, China, Korea and Japan. A special field is the production of chitosan derivatives. On behalf of companies, the HMC team develops chitosans with the desired, special properties. In the laboratories of HMC it is possible to produce under clean room conditions according to GMP (“Good Manufacturing Practice”) guidelines.

Research is being conducted on fiber materials and chitosan coatings, among other things, which can be used in the medical field. “In what we do and in this breadth we are unique on the world market. We have made it our business to be able to produce very special chitosans, meaning you can buy over one hundred different chitosans from us. Our competitors are able to produce about three to four different chitosans. This makes us really unique,” says company founder Katja Richter.

As Chitosan can be used universally, it is interesting for almost every branch of industry. Whether in hairspray, sunscreen or toothpaste - Chitosan is contained in many cosmetic products. In the medical field, dressing and suture materials as well as implant coatings benefit from the bacteriostatic and haemostatic effects of chitosan. Research is also being conducted into chitosan-based “scaffolding” in tissue engineering. But also the textile industry, agriculture and waste water technology use biopolymers. “This is our motivation. Going to a pharmacy and knowing ‘Yes, we have our fingers in the pie’ and now you can help people with it. Chitosan connects people, markets and ultimately a bleeding wound,” Richter explains.

mibe GmbH

mibe GmbH Arzneimittel is a high-performance, medium-sized pharmaceutical manufacturer that has been developing and producing quality preparations in a state-of-the-art pharmaceutical plant in the Leipzig/Halle area since 2003. Nearly all products that the Dermapharm group of companies sells are produced there. We are thus clearly committed to Germany as a business location.

Dermapharm AG, based in Grünwald, is a family-run company with several subsidiaries. One of these “subsidiaries” is mibe GmbH Arzneimittel with over 400 employees.

The range of products offered by mibe includes both prescription and over-the-counter drugs for various indications, such as gynaecological drugs, systemic corticoids, vitamins, local anaesthetics, eye therapeutics, preparations for bone metabolism, cardiac and circulatory remedies. But also medical devices and cosmetics are part of the product range.

Pharma Wernigerode GmbH

Pharma Wernigerode, which was founded in 1903, employs around 165 people at its Wernigerode site and mainly produces pharmaceuticals such as camomile and imidine as well as cosmetics, medical devices and food supplements.

Within the ARISTO Pharma GmbH Group with currently six production sites, Pharma Wernigerode is the only company in which liquid and semi-solid pharmaceutical forms can be produced. A high-speed filling line allows the company to fill batches of up to 10,000 litres under the most modern pharmaceutical conditions, with parallel production of different preparations possible.

Chemical finished products

Saxony-Anhalt represents the entire value chain of the chemical industry. Chemical raw materials and high-performance basic chemicals produced in the state are processed here in a wide range of applications. Companies from Saxony-Anhalt have secured global market segments in the fields of paints and adhesives, construction chemicals, soaps, detergents, cleaning agents, cosmetics or fragrances.
Solvay GmbH has been producing skin-friendly specialty surfactants in Genthin since the plant was opened in 2014. These are used in the production of detergents and cleaning agents and personal care products; they are also used for crop protection products and in the oil and gas industry. A major focus of production is amphoteric detergents and so-called ampholytic surfactants.

Around 30 employees work at the Genthin plant, which supplies the markets in Central and Eastern Europe.
Fact Sheet

HERE the chemistry is right.

(140 KB)

Contact

Goetz Schüle
Senior Manager Chemie
+49 391 568 99 28
goetz.schuele@img-sachsen-anhalt.de
V-Card

Tanja Rüdinger
International Location Marketing
+49 391 568 99 76	
tanja.ruedinger@img-sachsen-anhalt.de
V-Card

HERE+NOW.

Impulsmagazine Chemicals & Bioeconomy
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