

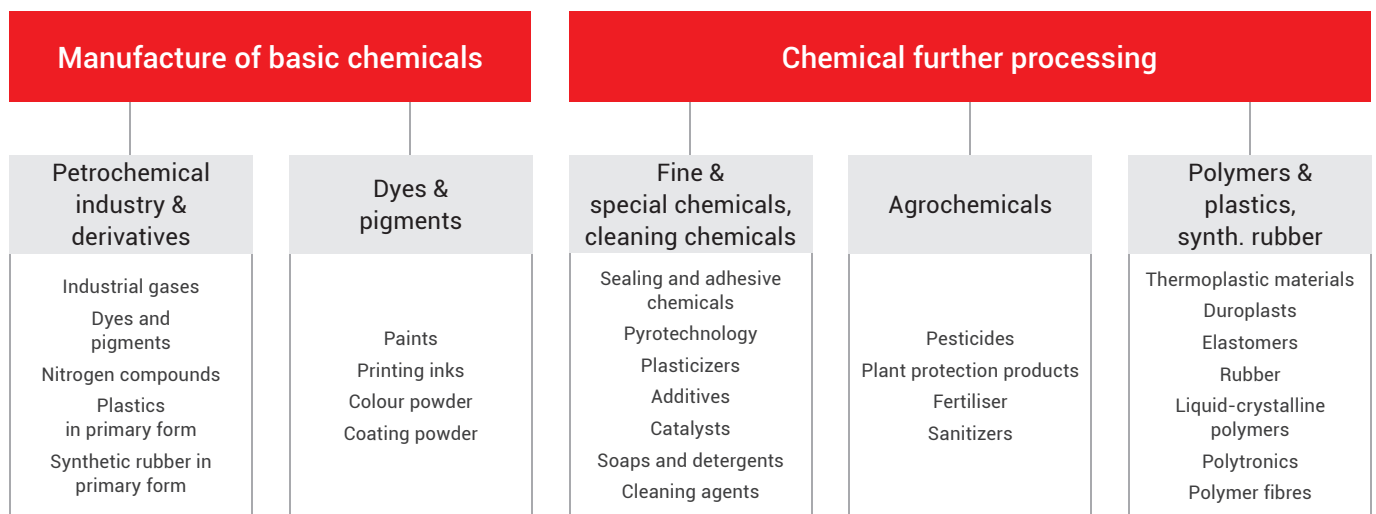
Chemical engineering

All processes under control – including for critical media.

There are stringent requirements for the varied processes in the chemical industry. Whether in the production of fertilisers, paints and varnishes or for applications in fine chemicals – occupational and production safety must be guaranteed.

Specific valve and component solutions are therefore much in demand when dealing with critical working media, high temperatures and high pressures. GEMÜ offers numerous valves made of plastic and high-performance thermoplastics, such as PFA or PVDF. Metal valves with plastic linings are also used successfully in processes with abrasive media and with solid matter. This flexibility regarding material selection ensures maximum process and plant reliability.

GEMÜ solutions for the distribution, handling and dosing of chemicals



Application example: Production of artificial fertilizers

Today, around 80 per cent of mined phosphorous is processed into fertilizer, because the metabolism of plants, animals and people is familiar with the nutrients released by the mineral fertilisers. In nature, phosphorous occurs only in bound form. Trapped between oxygen atoms, the raw material for artificial fertilizers is extracted from minerals such as apatite, using complex chemical procedures. Through the addition of sulphuric acid and under the influence of high temperatures, by-products are created alongside the super-phosphate fertilizer, such as calcium phosphate and PK, NP and NPK fertilizers. Finally, the fertilizer mixture is concentrated through dehydration and bottled as liquid fertiliser. To produce solid fertilizer, centrifugation is also carried out.

As the quality of phosphorous is increasingly deteriorating due to the high mining output, it is becoming more laborious and thus more expensive to free the raw material of impurities. Reliable and robust components that can sustain critical process steps are therefore all the more important.

