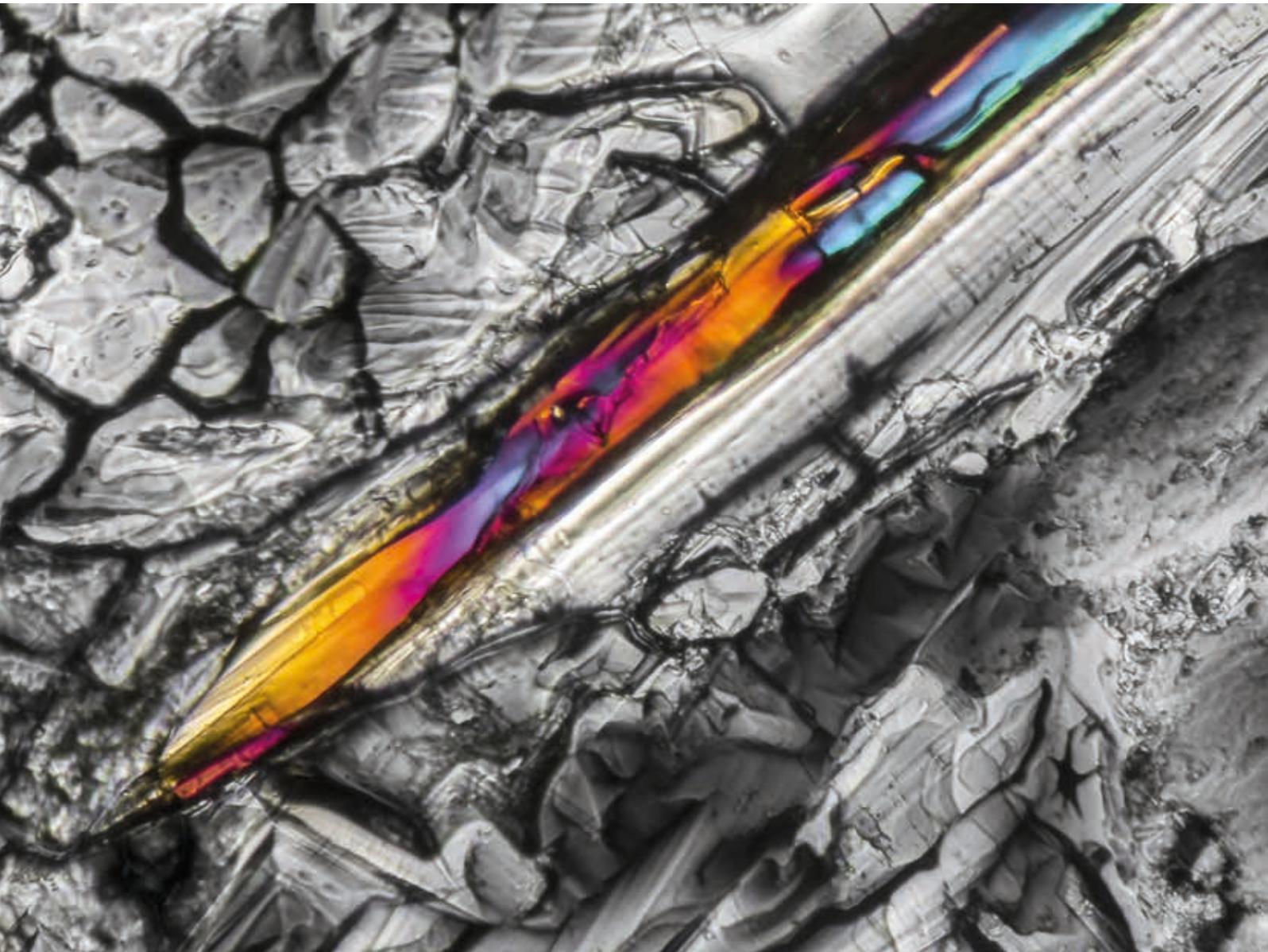




**SIEBTECHNIK TEMA**



**Ammonium Sulfate**

# The basics of Ammonium Sulfate

Ammonium Sulfate is an **inorganic salt** with a number of commercial uses. The most common uses are as soil fertilizer, food additives & in the treatment of drinking water.



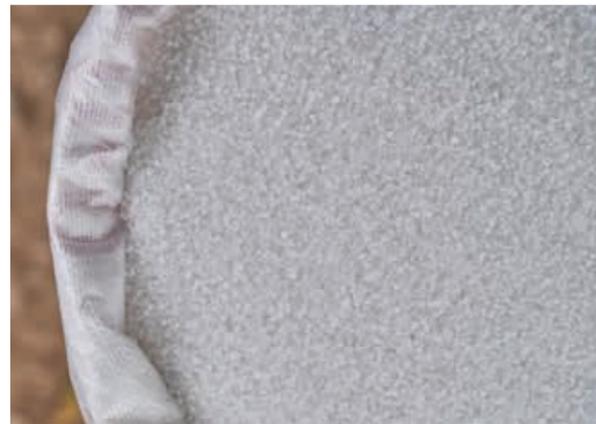
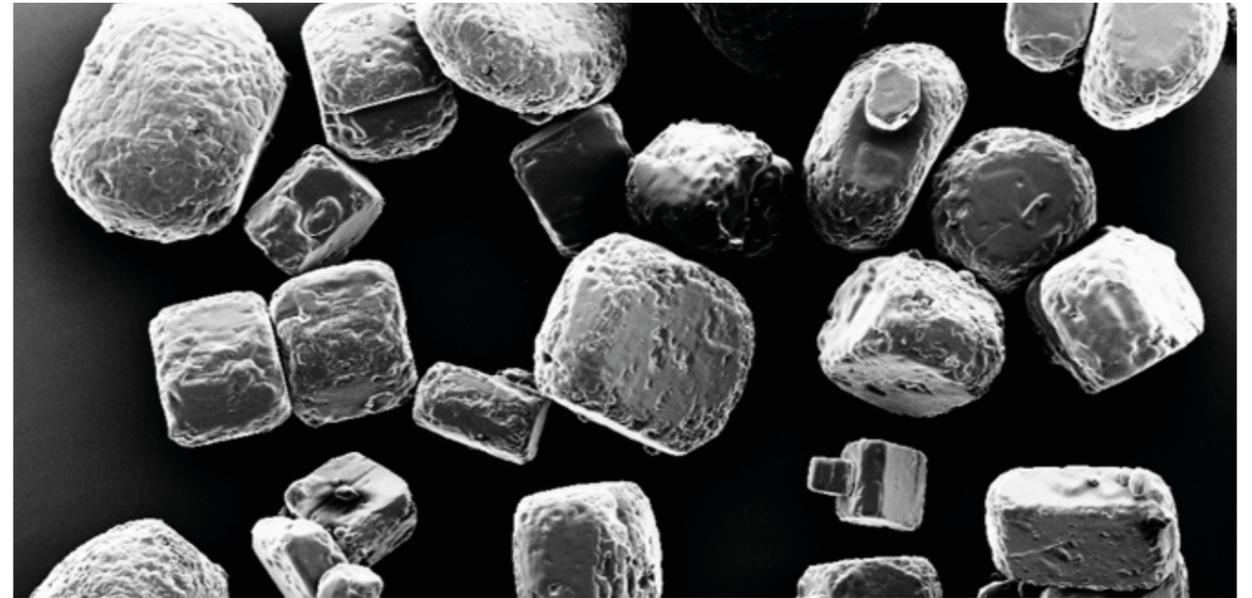
**Fertilizer** - The primary use of ammonium sulfate is as a fertilizer for alkaline soils. In the soil the ammonium ion is released and forms a small amount of acid, lowering the pH balance of the soil, while contributing essential nitrogen for plant growth.



**Food Additives | Acid Regulator (E517)** - As a food additive, ammonium sulfate is considered generally recognized as safe (GRAS) by the U.S. Food and Drug Administration, and in the European Union it is designated by the E number E517. It is used as an acidity regulator in flours and breads.



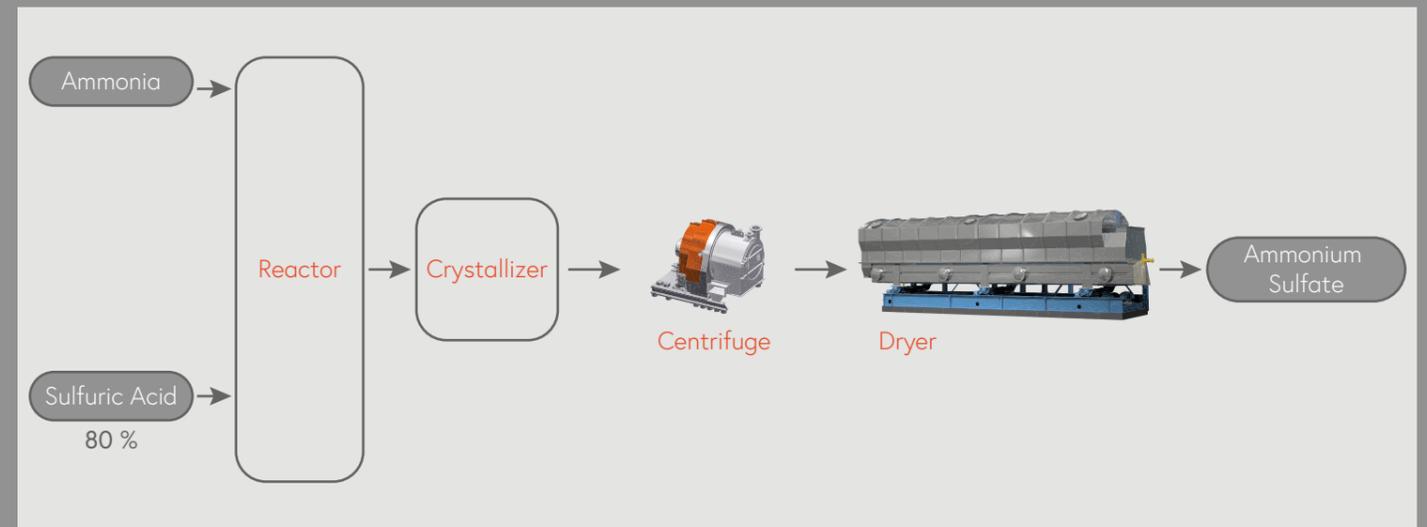
**Treatment of drinking water** - In the treatment of drinking water, ammonium sulfate is used in combination with chlorine to generate monochloramine for disinfection.



# AMMONIUM SULFATE PROCESSES

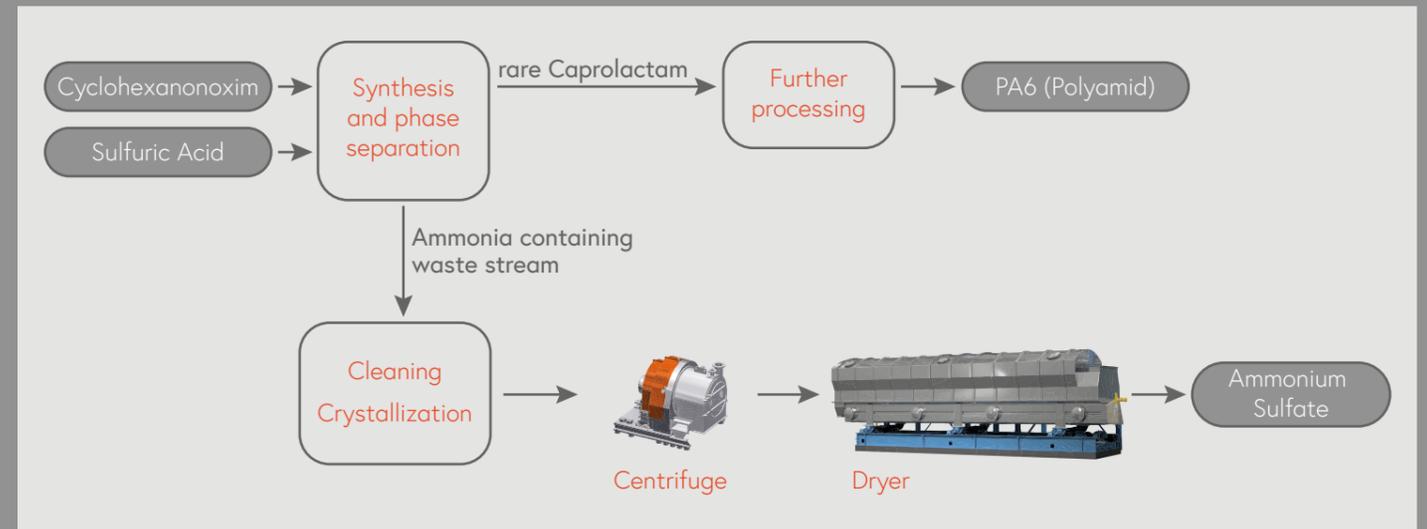


A) Synthetic production of Ammonium Sulfate out of ammonia gas and sulfuric acid.



B) Recovering Ammonium Sulfate out of sulfuric- or ammonia containing wastewater from processes such as:

- ◆ Acrylnitrile (AN) → Acrylamide, glue, solvents
- ◆ Methylmethacrylate (MMA) → acrylic glass (plexiglass)
- ◆ Caprolactam (CPL) → Polyamide 6 (textile fiber, foil)



C) By-product of the desulfurization of coke oven gas or ammonia-containing wastewater.



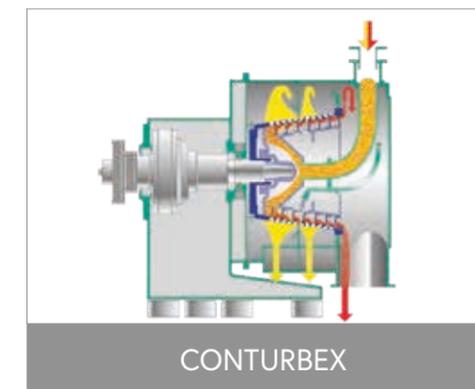
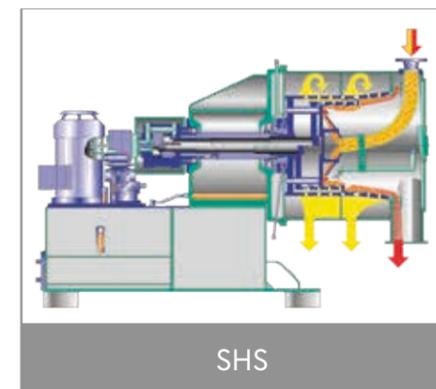
# AMMONIUM SULFATE - CENTRIFUGES



	SHS pusher centrifuge	CONTURBEX screen scroll centrifuge
Typical machine sizes	302	250
	402	320
	502	400
	602	520
	702	700
	802	1000
	1002	1200



# SELECTION CRITERIA FOR SHS & CONTURBEX



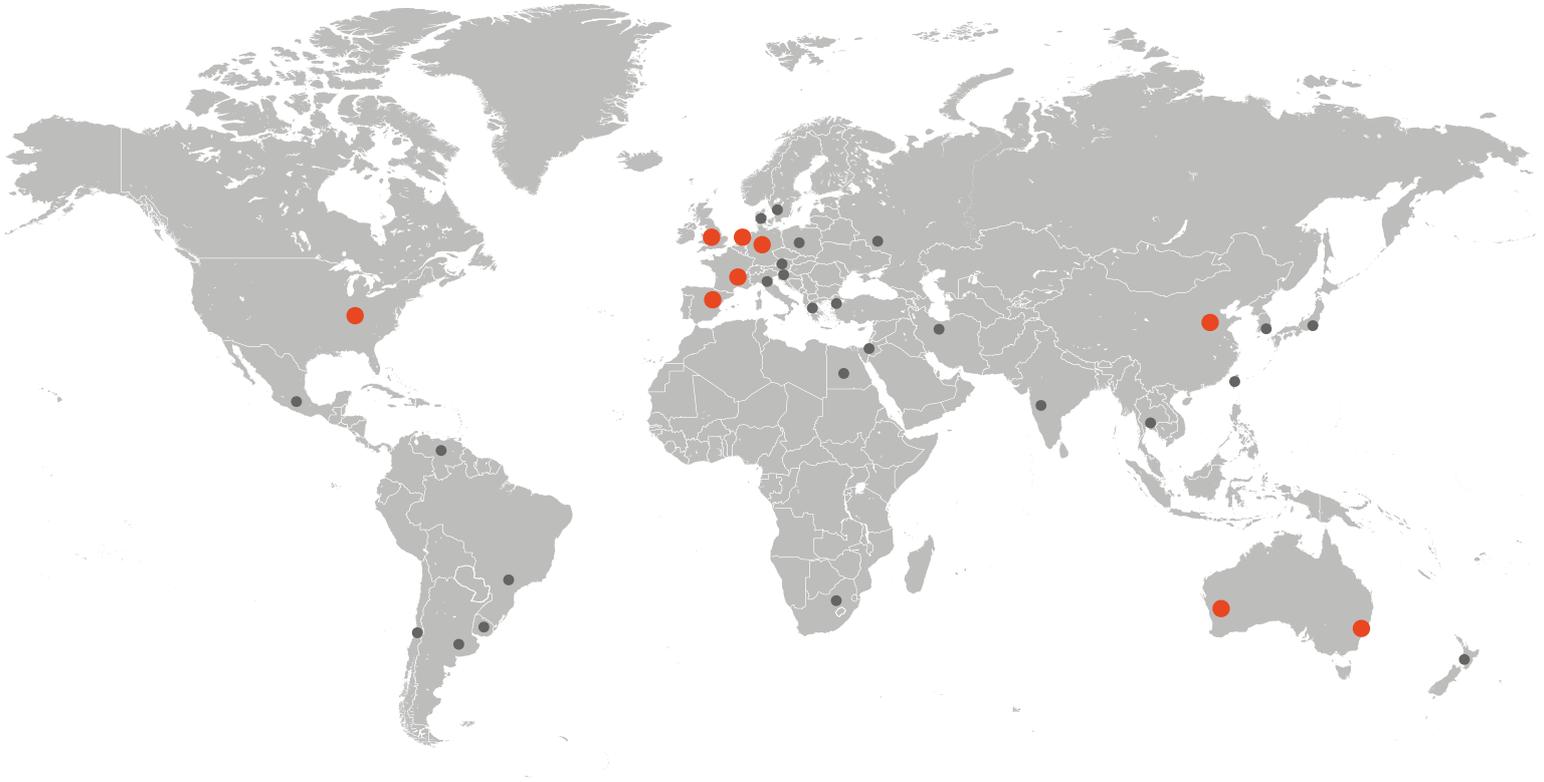
### Minimum of the solid concentration in the feed

Average diameter $d_{50}$	%w/w	%w/w
< 0,5 mm	40	20
> 0,5 mm	35	20

### Key Points

	SHS	CONTURBEX
<b>Solid layer</b>	+++ Smooth product transport, less particle breakage and less solid losses to filtrate due to high thickness of solid layer.	++ Thinner solid layer provides a quick dewatering, but may cause more particle breakage and higher losses of solids in the filtrate.
<b>Solid concentration</b>	+ High and stable solid concentration is requested.	+++ Low and varying solid concentration can be handled.
<b>Product washing</b>	+++ Very good washing efficiency due to long retention time of product on the screen.	++ Partly limited washing efficiency due to short retention time.
<b>Product transport</b>	+ No forced product transport, product remains in the drum after feeding stop. Cleaning is requested before restarting the machine to prevent high vibrations.	+++ Forced product transport by the scroll - "self-cleaning" - minimum remaining product after feeding stop.
<b>g-force</b>	+++ Smooth product transport and less particle breakage due to low g-force.	+ Higher g-force provides a quick dewatering, but more stressful product transport (scroll) may cause higher particle breakage and higher losses of solids in the filtrate.
<b>Gas-tight execution</b>	+++ Vapour- and gas tight execution available	+++ Vapour- and gas tight execution available

# One Solution. Worldwide.



SIEBTECHNIK TEMA provides more than 50 local support offices worldwide as well as main sites located in:

Mülheim an der Ruhr, Germany | Rijswijk / The Hague, The Netherlands | Daventry, Great Britain  
Mundolsheim, France | Madrid, Spain | Sydney & Perth, Australia | Cincinnati, USA | Tianjin, China

We are experts in the field of solid-liquid separation and the processing of bulk materials

Automation | Channel conveyors | Crushing & Milling Equipment | Control Screening Machines  
Decanter | Dryers | Laboratory Equipment | Pneumatic Tube Systems | Preparation Systems  
Process Equipment | Pulsator Jigs | Pusher Centrifuges | Sampling Systems | Screening  
Machines | Screen Worm Centrifuges | Sliding Centrifuges | Vibrating Centrifuges