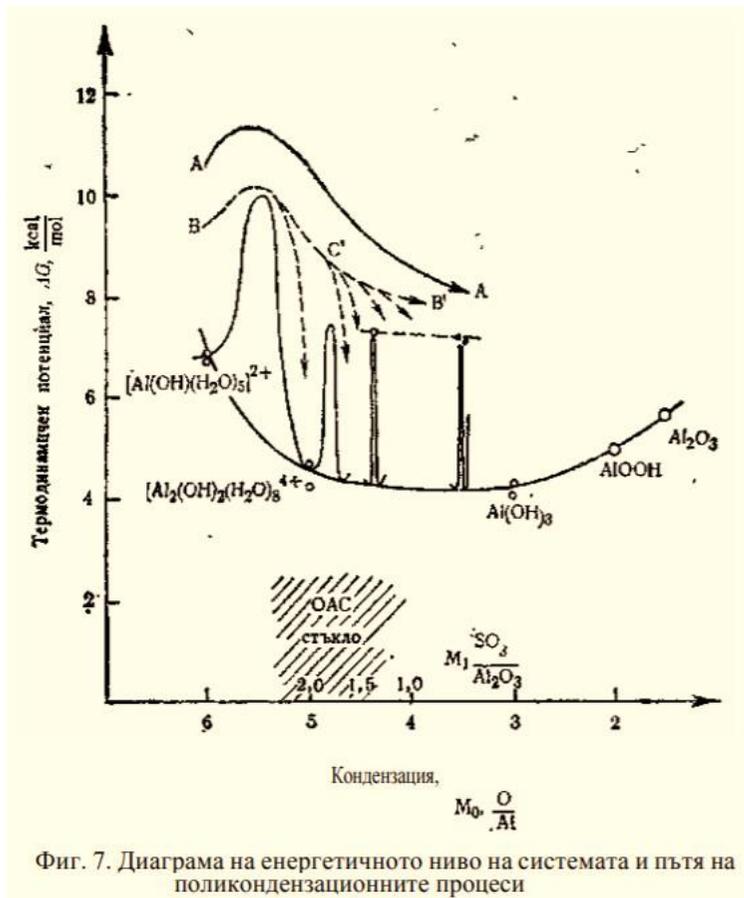


hydrolysis of soluble aluminum salts

H. Dobrev

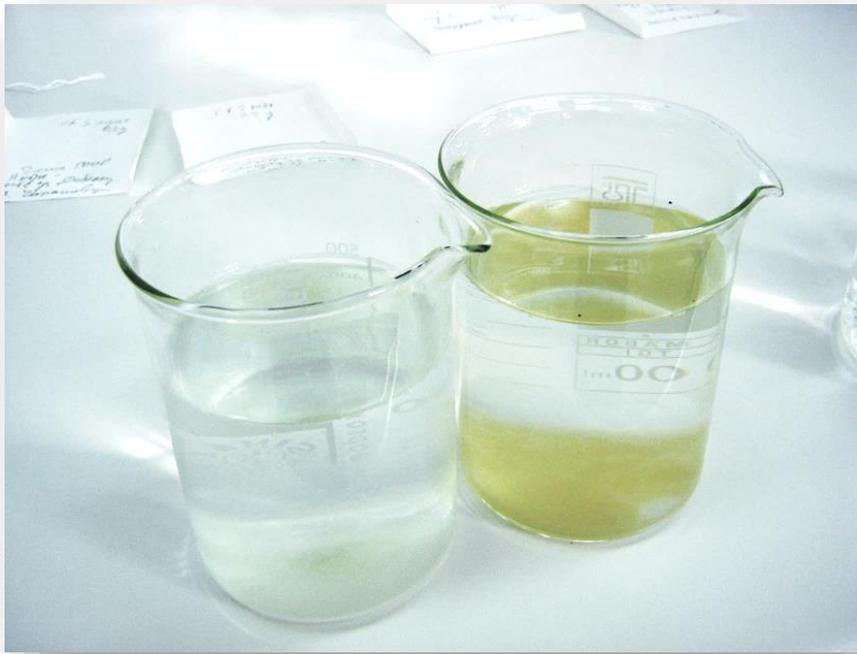


The use of aluminum salts as coagulants for water purification is due to their rapid and complete hydrolytic destruction.

These processes have already been described by Herodotus in the 5th century BC:

[*Zeitschrift für Chemie*, 23. Jahrgang. Dezember 1983. Heft 12. ISSN 0044-2402]:

„Die Wirkung der Protolysevorgänge, die in wäßrigen Aluminiumsalzlösungen ablaufen, wurde bereits von *Herodot* im 5. Jahrhundert v.u.Z. in Form der sauren Eigenschaften natürlich vorkommender Alaune beschrieben [*Herodot Historien* II,12, 180] und später auch von *Dioskorides Cajus Plinius* in diesem Sinne erwähnt.“



In the next step, the precipitated aluminum hydroxide forms flocs which increase in size for a few minutes to one hour. When purifying drinking water, the flocs of aluminum hydroxide include particles, molecules and ions contained in the raw water.

The flocs are separated from the water by decantation and filtration.

Then the sludge is treated according to the normative documents regulating the operation of the treatment plant.

The complete hydrolysis process is measured with the concentration of residual aluminum in the purified water.

The requirement is $Al_{tot} < 200 \mu\text{g} / \text{l}$. Practically, when using CFS10Al in the filtered water, $Al_{tot} < 100 \mu\text{g} / \text{l}$ is provided.

