

Kwas hypodifosforowy i jego sole nieorganiczne = Hypodiphosphoric acid and its inorganic salts.

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Streszczenie

Hypodiphosphoric acid is the lower oxoacid of phosphorus of $H_4P_2O_6$ composition. It contains the direct P–P bond, in contrast to its closest analog – pyrophosphoric acid, $H_4P_2O_7$. In comparison to other phosphates the knowledge on hypodiphosphoric acid and its inorganic salts is quite limited. Since its discovery almost 150 years ago, establishment of the proper molecular and structural formula of the acid has initiated intensive research and dispute in the literature, which was decisively ended in 1964, when the first complete X-ray crystal structure determination of diammonium hypodiphosphate was reported. Since then structural studies have led to the discovery of ferroelectric properties in the above-mentioned diammonium salt and dehydration-induced staggered–eclipsed transformation of hypodiphosphate in tetrabutylammonium salt, experimental electron density distribution determination in cubic tetralithium hexahydrate and last but not least crystal structure elucidation of hypodiphosphate analogs of adenosine diphosphate. In this mini-review the information on synthesis techniques, chemical and physical properties, applications of hypodiphosphates along with crystallochemical description of reported up-to-date crystal structures are presented.

Słowa kluczowe

hypodiphosphoric acid, inorganic salts, crystal structure, coordination chemistry, hydrogen bond

kwask hypodifosforowy, sole nieorganiczne, struktura krystaliczna, chemia koordynacyjna, wiązanie wodorowe

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