

ABSTRACT

Master's dissertation: 92 p. 19 Fig. 50 Table. 38 formulas, 71 springs, 2 applications.

The paper presents the results of studying the processes of ion exchange and electrochemical removal of ammonium from water.

Investigation of the processes of sorption extraction of ammonium ions was carried out on high-acid cation exchangers KU-2-8, low-acid cationite Dowex Mac-3 and zeolite of the brand CPS.

Established as the presence of calcium ions in water affects the efficiency of the process of sorption of ammonium in cation exchangers and zeolite. The boundary capacity of zeolite by ammonium ions is determined.

The processes of regeneration of cation exchanger KU-2-8 with solutions of sodium chloride and various acids were studied. The zeolite regeneration with sodium chloride solution was investigated.

The processes of electrochemical processing of solutions of ammonium chloride in a two-chamber electrolyzer are investigated. The influence of chlorides and sulfates on the efficiency of oxidation of ammonium has been established. The specific power consumption for ammonium oxidation in the electrolysis process is calculated.

AMONIUM, CALCIUM, ION EXCHANGE, ZEOLITE, BOUNDARY CAPACITY, REGENERATION, ELECTROLYSIS