ABSCTRACT

COMPUTER MODELING, AUTOMATION, ACCIDENT, MATERIAL BALANCE, REGULATOR, REGULATOR

Explanatory note 89 p., 11 figures, 26 tables, 3 appendixes, 25 sources.

The topic of this project is computer simulation and automation of the process of obtaining high-temperature anti-oxidant additive to motor oils.

The purpose of this project is to study the scheme of obtaining high-temperature anti-oxidant additive, calculation of stationary mode of the process, identification of the temperature object, development of the automation scheme, calculation of the PID-regulator, calculation of the closed system of regulation.

The project substantiates the norms of technological regimes, presents and analyzes the technological scheme of obtaining high-temperature anti-oxidant additive to motor oils.

The computer modeling in the program - ChemCAD 7 simulator and the technological parameters have been determined.

A computational module for calculating the settings of the PID regulator has been developed. The transition process of a closed control system in the environment of Mathcad 15 with the definition of quality control parameters is calculated.

The scheme of process automation is developed. Selected appropriate technical means of automation.

The economic-organizational calculations of the main technical and economic indicators of this production taking into account the automation of production are carried out.

The safety technology of the production process is considered. Technical safety solutions are given.