RadChem 2022



Contribution ID: 1022

Type: Poster

Radiation-chemical conversion of cellulose

There was studied the conversion of cellulose into liquid and gaseous products in the high-temperature range under the influence of ionizing radiation. There was found that at high temperatures, the yield of gaseous products prevails at the values of the absorbed dose $D \le 10$ kGy, and at higher doses, the yield of liquid and solid phase products prevails. This is due to the processes of dimerization or trimerization of high molecular weight radicals formed in the environment. A comparison of thermal and radiation-thermal processes shows that the output under the influence of ionizing radiation is higher, increasing the rate of conversion by up to 60%.

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Session Classification: Radiation Chemistry

Track Classification: Radiation Chemistry