

RADIATION RESISTANT POLYPROPYLENE

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Abstract. Polypropylene (PP) is used, among other application, for medical devices production. It was applied also for nuclear track membranes and nuclear track filters development beside other materials like polyethylene terephthalate and polycarbonate. The various crystal structure of PP has significant influence on biaxially oriented PP films 10 μm thick formation, which is suitable to this application.

Modified polypropylene (PP-M) has been obtained in the Institute of Nuclear Chemistry and Technology. This material can be used for production any kind of medical devices. Radicals which are form during PP irradiation are located in crystal phase (stable radicals) and amorphous phase (unstable radicals). Those species have fundamental influence on PP properties after irradiation process. The basic properties of PP-M are described in presented lectures.