

## RADIATION PROCESSING OF THE DEGRADATION OF POLYTETRAFLUOROETHYLENE TO LOW-MOLECULAR PERFLUORINATED COMPOUNDS

Hans-Jürgen Brink\*, Klaus Lunkwitz and Armin Ferse

Akademie der Wissenschaften der DDR, Institut für Technologie der Polymere, DDR-8010 Dresden, Hohe Str. 6 (G.D.R.)

The production of aliphatic perfluorinated compounds by means of radiation-chemical degradation reaction of PTFE using an electron beam represents a new alternative of the synthesis of special active components, such as fluorocarbon surfactants, fluorine containing textile finishing agents, special dielectrics and others.

A principle of process and an apparatus conception pertaining to it of a continuous degradation of PTFE to perfluoroalkenes and -alkanes in the favourable chain lengths ranges from six to fourteen carbon atoms, according to application, is described.

An essential component of this conception is the use of a target which consists of a tempered thin layer which is led, in correspondence with dimension and intensity of the radiation field, in an inertly processed reactor. An embodiment of the reactor is presented in detail.