Polymer Aging and Stabilization and Practical Problems

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Introduction
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The study of polymer aging by no means is the aim in itself, it only enables solution of certain practical problems connected with improvement of polymer ware, the production of new polymer materials.

Investigation of the kinetic regularities and aging mechanisms of different class polymers provides insight into a number of problems, such as:

1) Improvement of reliable duration and storage times of polymer ware, which is akin to their wider production and better quality.

2) Prognostication of the polymer ware "lifetimes," which would enable wider use of polymer ware with no risk of their dropping out of service.

3) Warranted possibility of secondary use of polymer ware and polymer waste.

4) Promoted solution of the ecology problems, since now most polymer waste is burnt down with no secondary processing, thus polluting the biosphere.

5) Use of the degradation process as a means of modifying polymers and polymer ware by imparting them new important properties, such as creating hydrophility in hydrophobic polymers.

6) Production of polymers with a prefixed "lifetime," thus enabling their wider use, for instance in agriculture.

The cooperation of socialistic Academies of Sciences in the problem of polymer aging and stabilization proceeds along three projects' "Antioxidant," "Photo-stabilizer," "Antipyrene." The selection of admitted papers has been conducted accordingly.

The solution of many problems of the kinetics and mechanisms of polymer aging will promote realization of the above practical problems.

It will be noted in conclusion that prolonged preparatory work preceded the first joint symposium on this topic. From the beginning of the nineteen seventies the cooperating countries worked under bilateral agreements that became multilateral towards the middle of the nineteen eighties. As a result of it many papers have been prepared jointly by scientists from two countries.