

## SYNTHESIS OF PERFLUOROPOLYETHER WITH HIGH MOLECULAR WEIGHT

Masanori Ikeda, Hiroyuki Fukui and Atsushi Aoshima

Central Laboratory

Asahi Chemical Industry Co.,Ltd.

2-1 Samejima,Fuji-shi,Shizuoka 416,Japan

Because of the mobile structure of the main chain, the polymer of hexafluoropropene oxide (HFPO) with high molecular weight is expected to be a new type of perfluoropolymer showing the flexibility and the low temperature workability, which are not observed for the perfluorocarbon type polymers such as polytetrafluoroethene.

In the polymerization of HFPO, however, the chain transfer reaction takes place easily to result in the formation of the viscous liquid oligomer with low molecular weight, at most.

We investigated the method to prepare the polymer of HFPO with high molecular weight by connecting the bifunctional oligomer of HFPO by means of a stable triazine group, as shown in Figure 1.

Then, we established the method to form the polymer of HFPO with high molecular weight more than  $1 \times 10^6$ , which is an elastic solid and is useful as a new type of advanced material.

The details of the preparation method and the characteristics of this polymer will be presented.

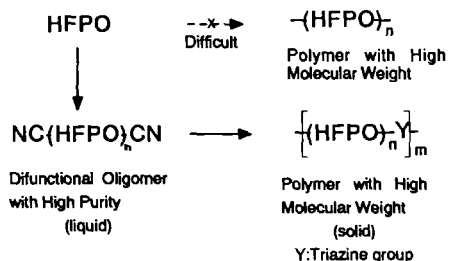


Figure 1. Approach to the HFPO Polymer with High Molecular Weight