Simple synthesis of porous polyimide-based aerogel in continuous process

김진영, 김건휘[1], 이대로[1], 한학수[1,†]
연세대학교; [1]연세대학교, 화공생명공학과
(hshan@yonsei.ac.kr[†])

In the previous study, the polyimide-based aerogel is synthesized with autoclave which can create a critical condition for the formation process. However, the polyimide aerogel is found to be also possible to produced without autoclave which was an obstacle applying in a continuous process. In this study, the polyimide aerogel is fabricated without using autoclave, and the product from the continuous process showed a similar porous structure compared with the original one made with autoclave. The mesopores and macropores retained its hierarchial structures, even showed better distribution on the wide pore size range. The porosity and pore size distribution of produced aerogel were observed by BET and mercury intrusion measurement. Its vapor and liquid form VOCs uptake were measured and showed a good result.