



Polybutylene Terephthalate (PBT) Technology

Polybutylene Terephthalate (PBT)

PBT is a thermoplastic and is known as one of five major engineering plastics. PBT is used in automobile and electrical industries because of its excellent properties. The estimated world demand of PBT is approximately 900,000 ton/year and it is expected to have a stable increase in demand every year.

Introduction of our PBT Technology

In the past, PBT was mainly produced by batch method with dimethyl terephthalate (DMT) and 1,4-butanediol (BDO). We innovated a continuous producing method with terephthalic acid (TPA) and BDO and constructed a production line of 60,000 ton/y in 2002. This was the first continuous plant of world's largest scale in those days.

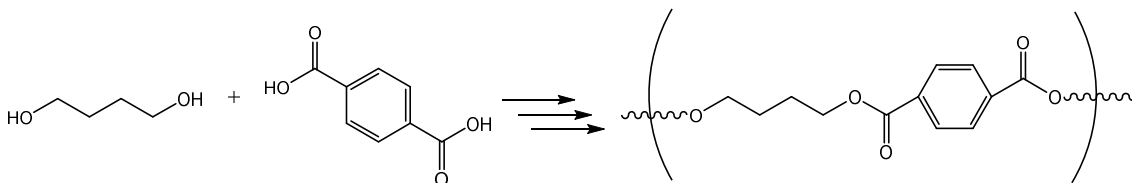
Process Features

Our PBT process has unique features as follows;

(1) Process

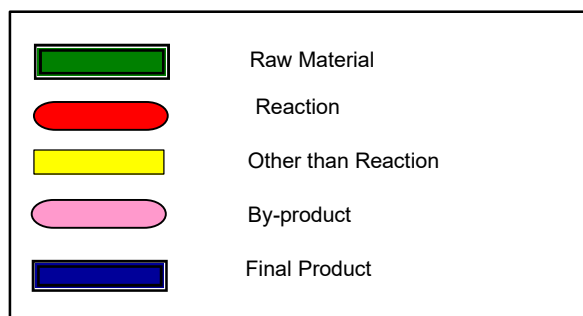
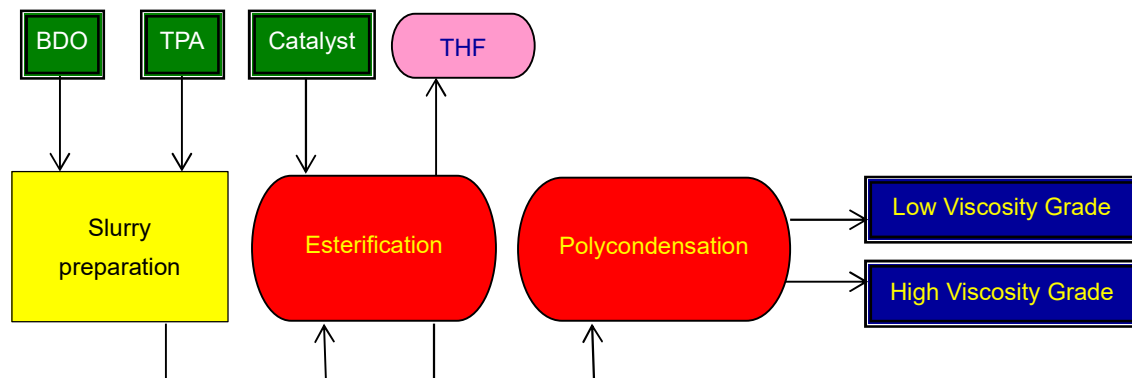
Our PBT process is constituted of several reactors, vacuum system and Tetrahydrofuran (THF) recovery system. There is a special characteristic of this process to produce two grades products, low viscosity grade and high viscosity grade, which can be produced at the same time. Also, it is possible to produce PBT with wide viscosity scope (IV = 0.7~1.3) using our proprietary catalyst and advanced manufacturing technology. Furthermore, these technology and catalyst enable a long-term stable operation and high quality PBT production.

Chemistry





Simplified Block Flow



(2) High quality product

PBT which was produced by our process has a unique quality. It has a low acid value and very less amount of foreign substances. Also, there are very few numbers of fish-eyes in the film. Because of these supreme qualities, our products are used not only for injection molding applications but also for extrusion moldings and we have a high reputation from our clients all over the world.

(3) Intellectual properties

We have a number of patents for this above-mentioned PBT process technology in Japan and overseas.

For further details, please visit our homepage at:

<https://www.m-chemical.co.jp/en/petrochem-license/>