

8th World Congress and Expo on Recycling

June 25-26, 2018 | Berlin, Germany

Polymers recycling: using the past to build now a better future

Cestari S P, Mendes L C and Freitas D F S

Instituto de Macromoléculas Professora Eloisa Mano - Universidade Federal do Rio de Janeiro, Brazil

The aim of this work is to show and stand for the concept that waste polymers should be used as feedstock for new products, so that mankind would actually live in a more sustainable way, in a cleaner planet. The key is to treat post-consumer plastics scientifically, using the established knowledge about polymers and creating new techniques whenever necessary. Moreover, the transdisciplinary approach from industries other than that of chemistry can bring new insights, adapting methods, creating new tests and giving unexpected applications for materials that were taken for granted as useless trash. The most interesting part of this work is the possibility to develop new materials and products, made of virgin polymers, for the regular industry. They could replace regular materials and products (like concrete, bricks, tiles, board paper, dry-walls) by more sustainable solutions that use synthetic polymers instead of finite natural resources. Several studies developed in the Laboratory of Sustainable Polymeric Materials (IMA-UFRJ) have already shown that there is a feasible pathway to handle waste plastics. Most of them were designed to become building materials for low income population in developing countries; but some others could be used as synthetic paper, filler in asphalt, textile fibers, or a parent material to synthesize alkyl resin.

scestari@ima.ufrj.br