

## INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

"KEY ELEMENTS FOR A SUSTAINABLE WORLD: ENERGY, WATER AND CLIMATE CHANGE"

## Application of Cleaner Production tool in Plastic Recycling Process

F. P. Faria, E. B. A. V. Pacheco

Universidade Federal do Rio de Janeiro, Instituto de Macromoléculas Professora Eloisa Mano (IMA/UFRJ),

Caixa Postal 68525, 21945-970 - Rio de Janeiro, RJ – Brasil - <u>flaviapf@ima.ufrj.br</u> e <u>elen@ima.ufrj.br</u>

## **Abstract**

This work shows suggestions for the accomplishment of the plastic recycling process in an environmentally friendly way, based in the Cleaner Production tool. Besides reduction of plastic consumption or reuse of packing, it is necessary to invest in recycling technology and the selective garbage separation for guaranteeing the minimization of sending waste to landfills. The recyclers, which receive as raw material the plastic waste, carry out the recycling in stages that might guarantee the minimum quality standards for production of new objects. As a tool of environment management, Cleaner Production can be used by companies to reduction of consumption of energy and water, as well as minimization in generation of waste. The stage of laundering, for example, is the one that involves greater water consumption that needs to be saved, treated and reused. The extrusion of the plastic material for molding in new products generates solid residues that also need to be recycled. Although the recycling process treats of garbage generally dirty and contaminated, it shall be carried out with an environmentally correct process.

Keywords: Recycling, Plastic, Cleaner Production