

ASSESSING THE ENVIRONMENTAL COST OF RECENT PROGRESSES IN EMULSION POLYMERIZATION

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Abstract

Recently, emulsion polymers have grown in interest. On the one hand, environmental pressures are jeopardizing the use of hazardous volatile compounds, favoring the industrial practice of emulsion polymerization. On the other hand, emulsion polymerization is long known for its outstanding capacity to produce products with a myriad of properties.

Emulsion polymers are the base of a well-established industry. Synthetic rubbers alone account for the production of over 8000Mtpy of emulsion polymers. It is widely recognized how technical progresses on the polymerization field can benefit companies. Never the less, not much has been said about the environmental impact of those progresses.

This work intends to shed light into this promising field. Therefore, using the principia of the inventory step of the life cycle assessment analysis, recent progress in emulsion polymerization are judged based on their possible environmental burden.

Keywords: emulsion polymerization, environmental burdens, life cycle assessment