Method for recycling waste polyester blended fabric containing natural fiber

Patent no.: WO2019/047177

Publication date: 2019-03-14

Applicant(s): HONG KONG RESEARCH INSTITUTE OF TEXTILES & APPAREL

Abstract

Provided is a method for recycling a waste polyester blended fabric containing natural fibers, comprising placing the waste polyester blended fabric in a water-soluble tertiary amine oxide solution containing an antioxidant to dissolve the natural fibers, so as to form a fiber solution and a solid insoluble material, then recycling the fiber solution to obtain regenerated natural cellulose fiber, and recycling the polyester solid by sequentially adding an ester solvent and a fatty alcohol into the solid insoluble material.The recovering method can separate polyester from other natural fibers, is suitable for all polyester blended fabrics, and has a high recycle rate for polyester and regenerated natural cellulose fibers, and therefore avoids the use of a highly toxic and irritating chemical agent, and the agent used can also be recycled and reused.The recycling method has the advantages of high efficiency, low cost, being environmentally friendly, and having a wide application range etc., thus having the potential of industrial application.

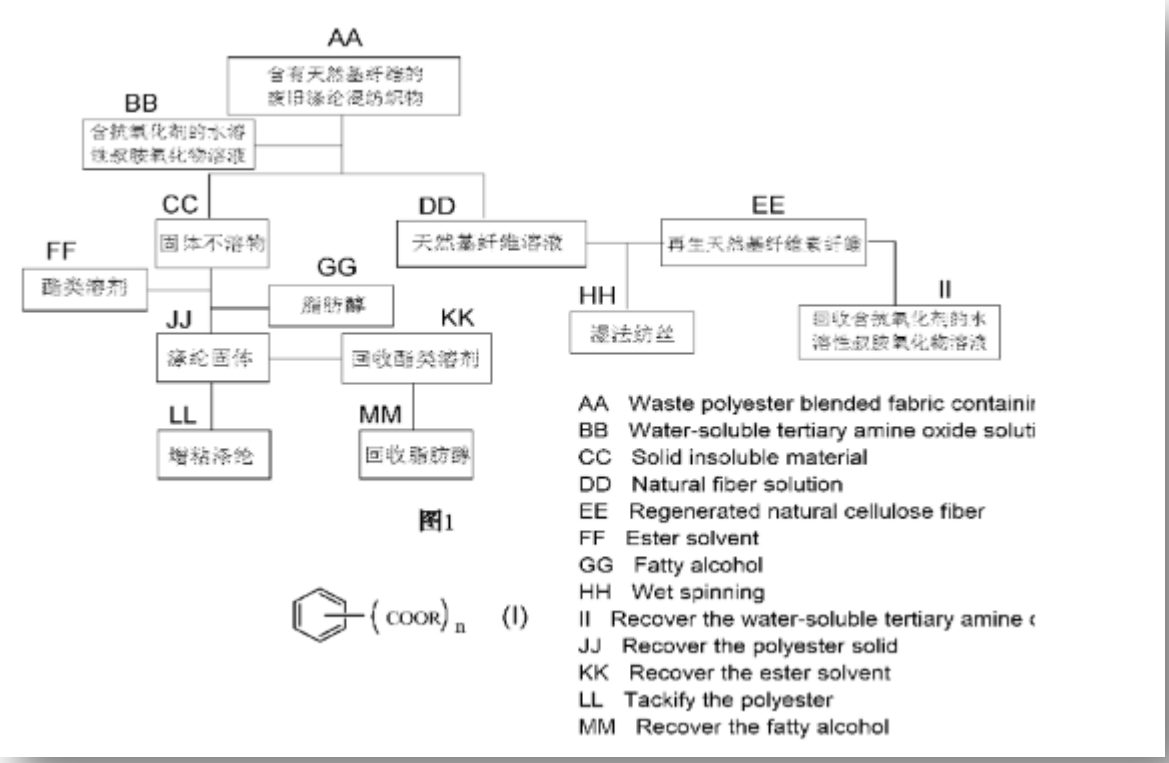


图1

(I)

Isocyanate-functional polymer components and polyurethane articles formed from recycled polyurethane articles and associated methods for forming same

Patent no.: WO2019/030071

Publication date: 2019-02-14

Applicant(s): BASF

Abstract

A method of forming an isocyanate-functional polymer component includes forming a first mixture by mixing a recycled polyurethane article and a first isocyanate component having isocyanate-functional groups. The first mixture is heated to a temperature sufficient to transform the recycled polyurethane article from a solid form to a liquid form and react the liquid recycled polyurethane component with the first isocyanate component to form an isocyanate-functional polymer component having an isocyanate-functional group content greater than zero and less than isocyanate-functional group content of the first isocyanate component. The formed isocyanate-functional polymer component may then be used for forming a polyurethane article or polyurethane foam article that is the reaction product of the formed isocyanate-functional polymer component, a second isocyanate component and anisocyanate-reactive component having hydroxyl-functional groups.

Polyester textile waste recycling

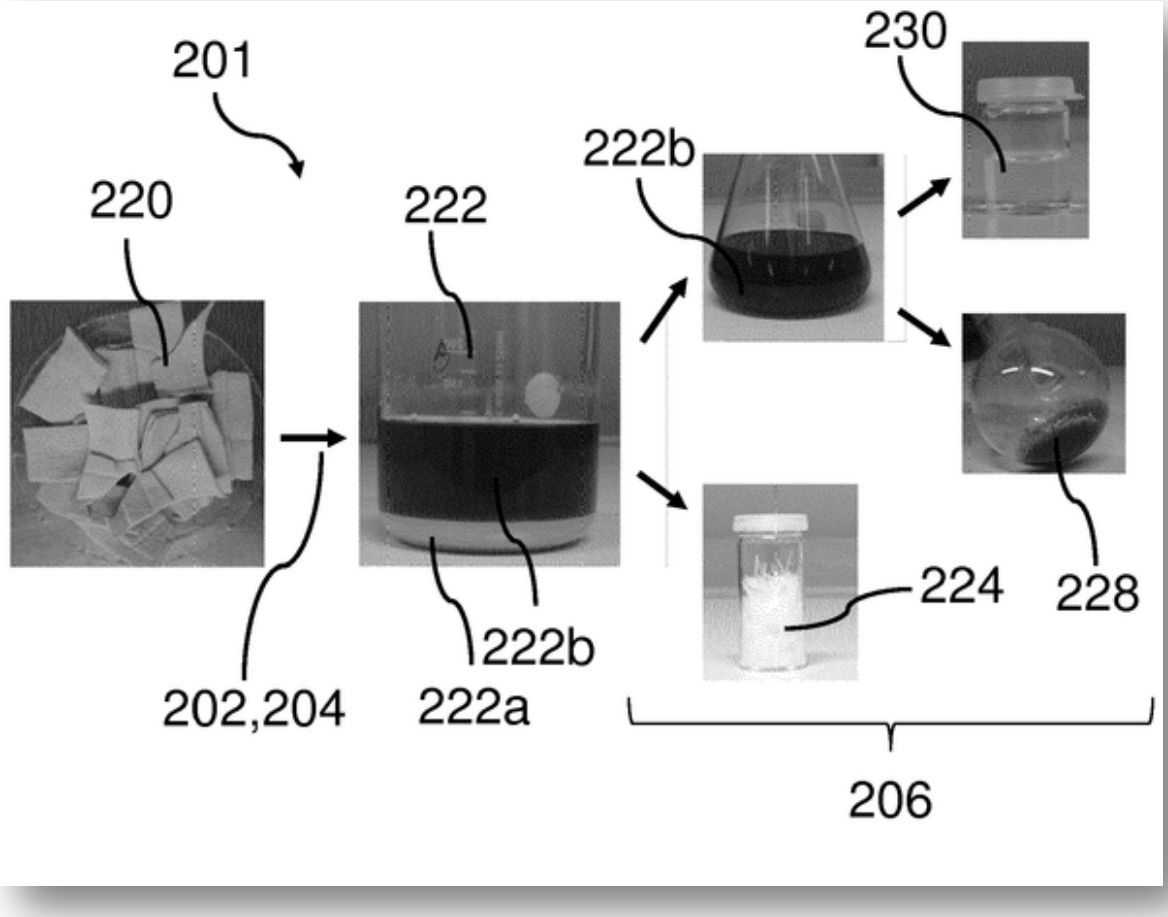
Patent no.: EP3363852

Publication date: 2018-08-22

Applicant(s): SWEREA IVF

Abstract

The present invention relates to a method for recycling polyester from a polyester textile. The method comprises the steps of: providing said polyester textile soaked in a mixture comprising a solvent and a catalyst, providing and maintaining a temperature of said mixture comprising said polyester textile within a range of 80-240 °C during depolymerization of polyester in said polyester textile and wherein, in said step of providing said polyester textile soaked in said mixture, said catalyst of said mixture comprises calcium oxide. The invention also relates to use of a catalyst for depolymerization of polyester in a polyester textile, wherein the catalyst comprises calcium oxide.



Vacuum cleaner filter bag containing recycled textile materials and/or cotton linters

Patent no.: EP3305155

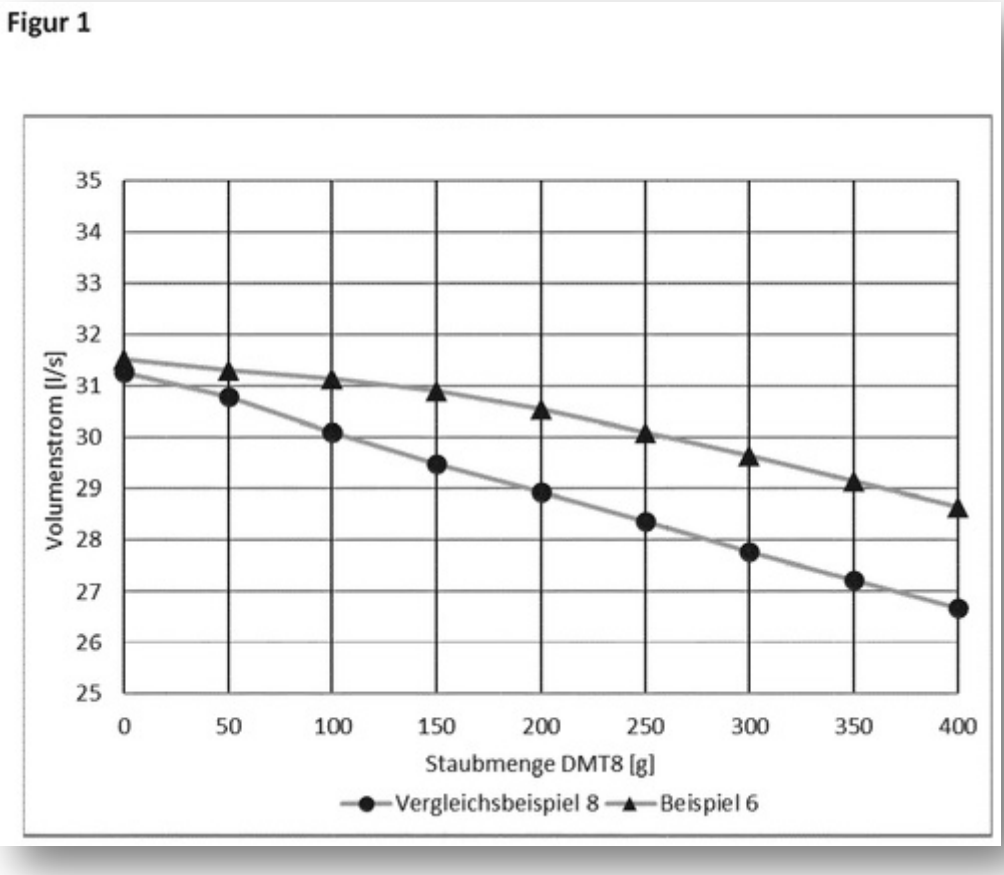
Publication date: 2018-04-11

Applicant(s): EUROFILTERS NV

Abstract

The present invention relates to vacuum cleaner filter bags made of waste products from the textile industry. In addition, possible uses of waste products from the textile industry for vacuum cleaner filter bags are specified. The vacuum cleaner filter bag, which comprises a wall, enclosing an interior, made of an air-permeable material and an inlet opening introduced into the wall, is characterized in that the air-permeable material comprises at least one layer of a nonwoven, which comprises fibrous and/or dust-form recycled textile material and/or cotton linters, wherein the specific volume of the layer of nonwoven is at least 20 cm3/g.

Figur 1



Improved recycling of polyester bottles

Patent no.: WO2019/069292

Publication date: 2019-05-03

Applicant(s): RESILUX

Abstract

The invention relates to the use of a ring-shaped support collar (1) for a plastic bottle, wherein the ring-shaped support collar has flat regions and facets (3) at least partially around its circumference, as a sorting means for a difficult to recycle plastic bottle; in particular, as a recognition means for an opaque polyester bottle in a food or beverage packaging or as a recognition means for a transparent polyester bottle in a non-food packaging. The invention also relates to a method for recognizing difficult to recycle polyester bottles using the sorting means; as well as bottles and preforms of a polyester composition that is problematic for recycling provided with the sorting means.

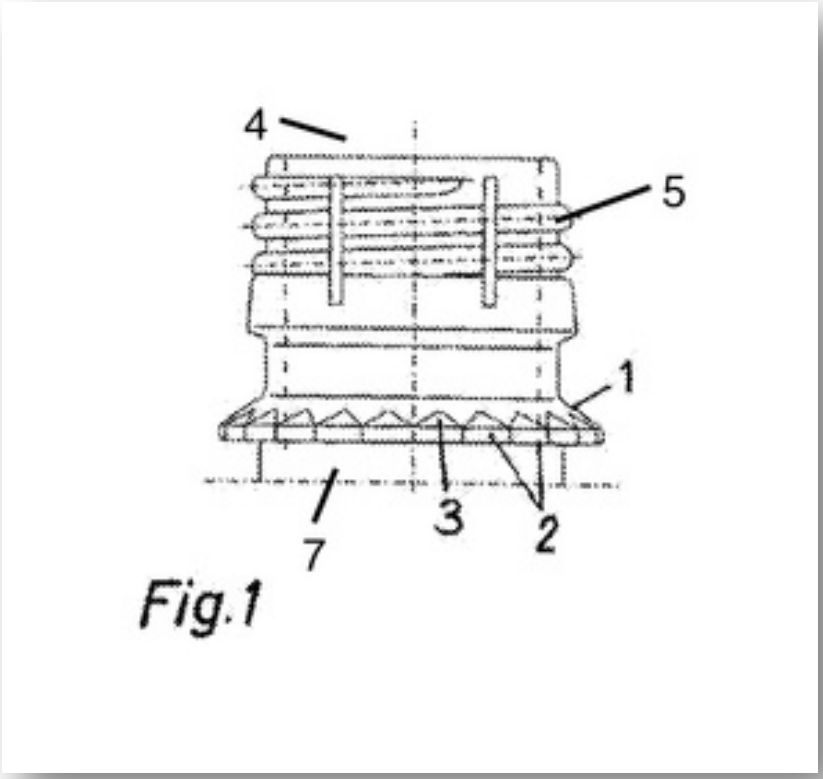


Fig.1

Reuse process for products originating from the textile and clothing industry

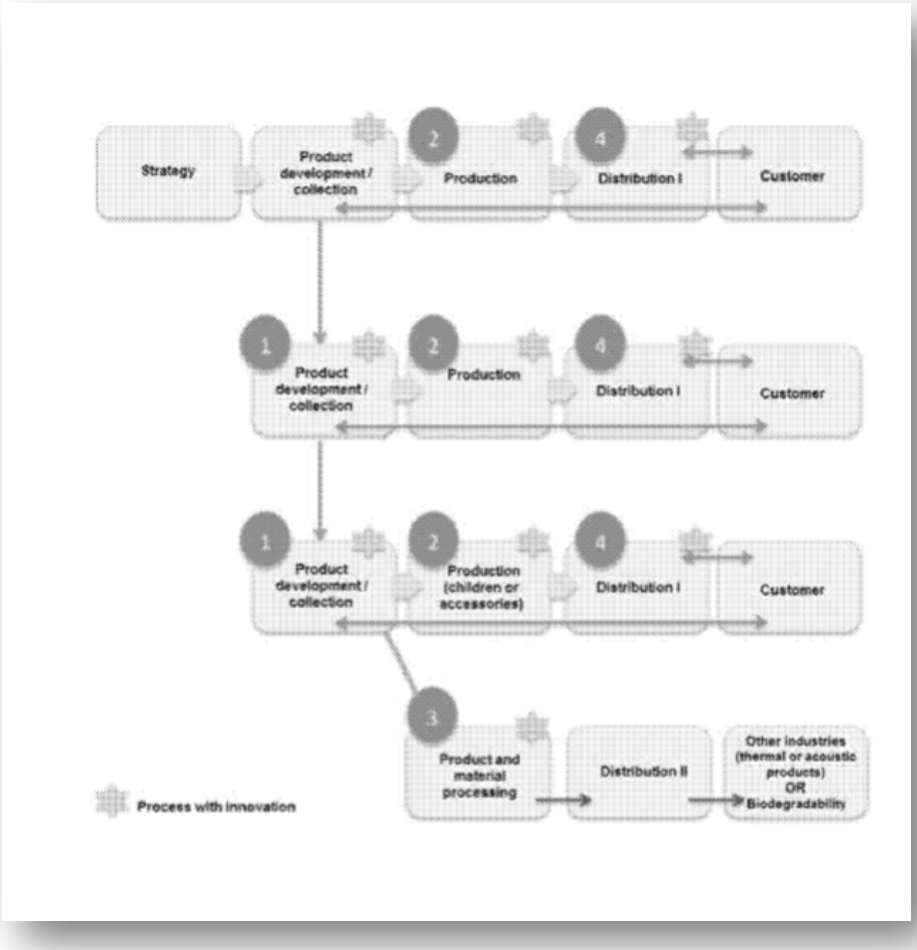
Patent no.: WO 2018/145175

Publication date: 2018-08-16

Applicant(s): AMARAL MILENA

Abstract

The present invention belongs to the clothing industry and to a new vision for the fashion supply chain and reutilization of products originating from the textile industry, solving the inconveniences and impacts detrimental to the environment observed in manufacturing of clothing for the fast-fashion sector. The invention provides an automated, digitalized and eco-friendly circular fashion platform, providing clothing collections for rent, which are later sent back to the production line to be reused in a restyling phase to create a new product utilizing an automated supply chain which uses algorithms to determine the best style for the part. A final phase of the process reuses the raw biodegradable material for the production of children's clothing or for composing thermal products or acoustic parts in other industries. This process allows a high-scale production, low access costs for the consumer and deceleration of the contribution of industry as a pollution agent.



Textile repurposing and sustainable garment design

Patent no.: US2018125139

Publication date: 2018-05-10

Applicant(s): UNIV OKLAHOMA STATE

Abstract

This disclosure addresses a problem in relation to the environmental destruction that excessive apparel production can produce. In various embodiments, existing textile products are deconstructed into pieces of fabric and then reassembled into apparel in a manner that creates minimal or zero waste. In some embodiments, the fabric pieces will be positioned inside of one or more pattern pieces so as to completely cover each one without overlapping its border. The positioned pieces will be treated with an adhesive and then have a paper layer adhered to it to hold the positioned fabric pieces in place while they are stitched together. Then, the resulting sandwich will be soaked to remove the paper and dissolve the adhesive. The resulting unified fabric component will then be available to be stitched together with other similarly formed fabric components to form a garment.