

Method for the recyclable production of plastic products, recyclable plastic product, method for operating a data processing system, and data processing system

Patent #: DE102019127827

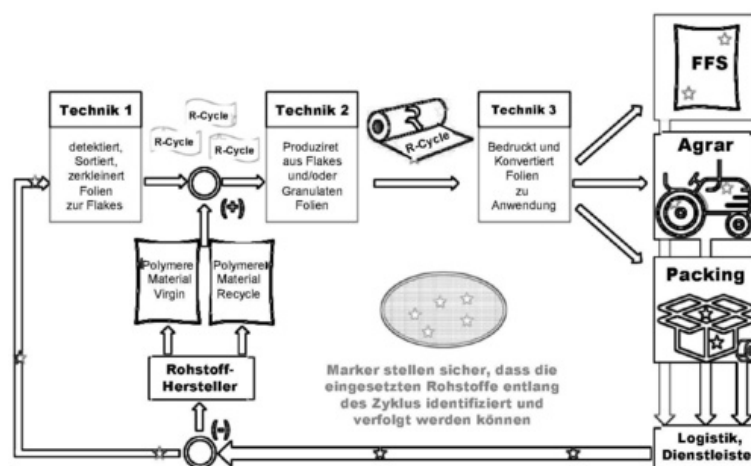
Publication date: 2020-08-27

Applicant(s): REIFENHAUSER

Inventor: LETTOWSKY CHRISTOPH, CLAUSSEN-MARKEFKA HEINO, NEUSS ANDREAS

Abstract

The invention relates to a method for the recyclable production of plastic products from a recycled plastic material, wherein the recycled plastic material comprises at least one portion of plastic material from a plastic article from a previous application, wherein the plastic article of the previous use has been manufactured in a previous manufacturing process, wherein the recyclable production of plastic products takes place only partially from a recycled plastic material, in such a way that the production of plastic products of the ongoing production process takes place with a first plastic fraction of unrecycled virgin plastic material and with a second fraction of plastic products of the plastic material recycled from the preceding production process, and in that the ratio of the first virgin plastic fraction to the second recycled plastic fraction is dimensioned in such a way that even after an nth production process after the ongoing production process, a quality of the plastic product produced according to the nth production process is identical in terms of quality compared with the quality of the plastic product produced in the first production process(s), wherein the number n is at least 2, wherein an identification marker of the plastic product is used which, in a life cycle of the plastic product, allows a clear or unambiguous identification of an origin of a plastic formulation used in the ongoing production process.



Leather alternative material

Patent #: EP3715110

Publication date: 2020-09-30

Applicant(s): Patent Shoes

Inventor: GARCÍA MARTÍNEZ CONCEPCIÓN

Abstract

The present invention relates to a material that can be used as a leather substitute comprising: a layer of bacterial cellulose, (BC), and a layer of a biobased and biodegradable plastic selected from the group consisting of polyesters and polysaccharides or copolymers thereof, wherein both layers are attached each other. The present invention also relates to the preparation method for preparing said material, to a footwear or any other article comprising same and to the use thereof as a structural component in industries associated with leather such as the textile, clothing, apparel, footwear, furniture and transport sectors.



Fig. 1

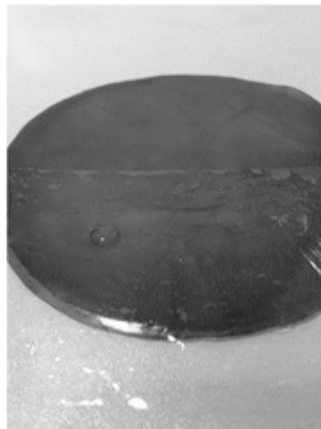


Fig. 2

Edc-free biopolymer-based compositions and uses thereof

Patent #: US20200299504

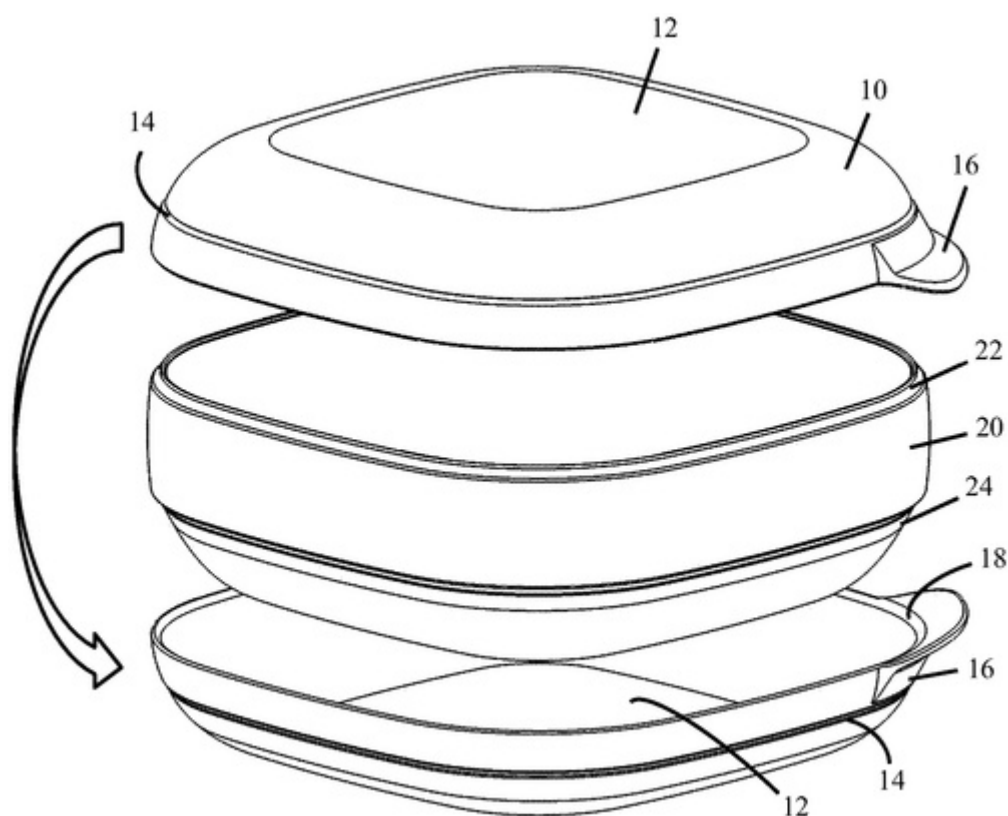
Publication date: 2020-09-24

Applicant(s): TRUELY

Inventor: MUNOZ JOSHUA DAVID

Abstract

Endocrine disruptor-free biologically derived plastic formulations, a method of making the same, and a unique design embodiment in a food storage container application. The composition may comprise one or more polymers; one or more additives; and one or more biologically derived components including at least one of the one or more polymers or one or more additives, at least one of the one or more polymers or the one or more additives being substantially free of endocrine-disrupting compounds.



Flame retardant polyamide-based 3d printing extrusion materials

Patent #: WO2021/043929

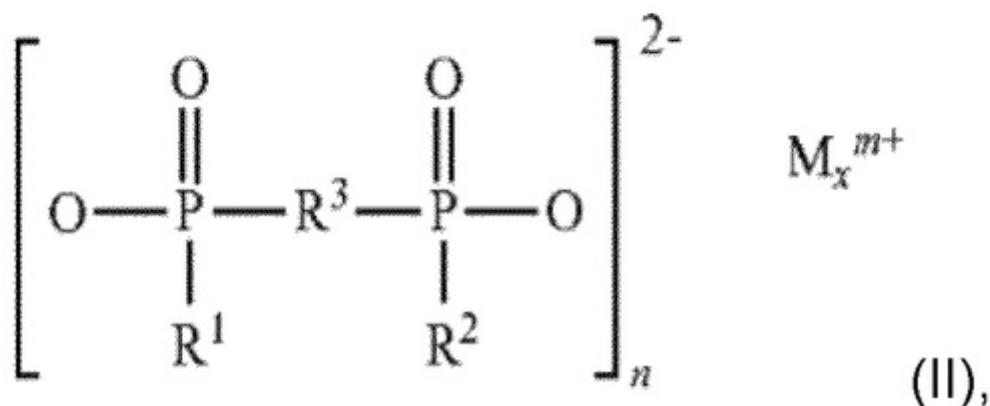
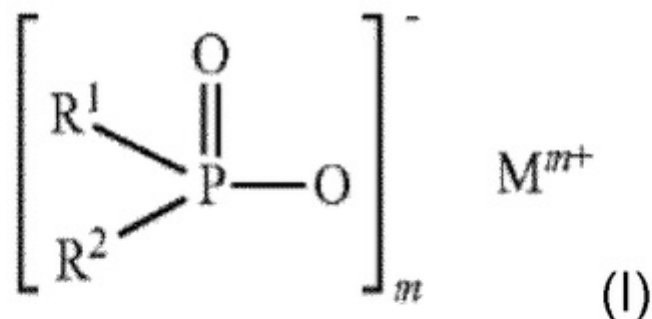
Publication date: 2021-03-11

Applicant(s): DSM IP ASSETS

Inventor: MCCANN DAVID, MARGUIER JOHANNA, HÖROLD SEBASTIAN

Abstract

The present invention relates to a fire, smoke and toxicity retardant (FST) polyamide thermoplastic mass usable for 3D printing which comprises at least one non-halogenated organic flame retardant in combination with at least one particulate inorganic flame retardant. Moreover, the present invention refers to uses of such FST polyamide thermoplastic mass for 3D printing. The invention further relates to methods of preparing a three-dimensionally shaped product by means of 3D printing based on such FST polyamide thermoplastic mass.



Antimicrobial plastic blends, processes for the preparation thereof and uses thereof

Patent #: WO2020/252566

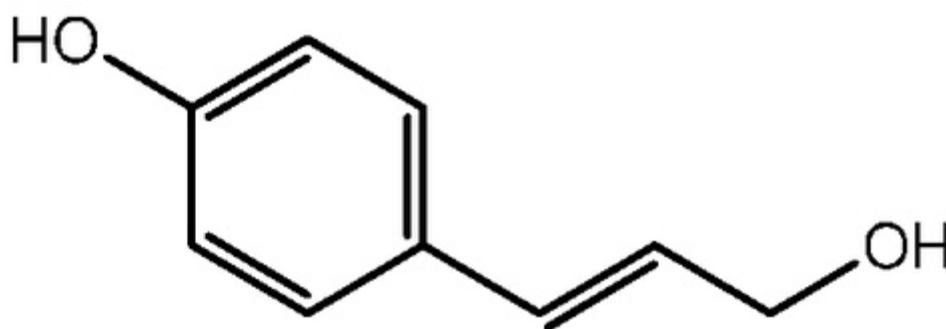
Publication date: 2020-12-24

Applicant(s): NATIONAL RESEARCH COUNCIL OF CANADA

Inventor: TON-THAT MINH TAN, LI HONGBO, LEUNG CHI WOON, LAM EDMOND

Abstract

The present application relates to antimicrobial plastic blends comprising a quaternary ammonium modified lignin-containing material wherein lignin phenols are in the anionic form and a dispersing plastic (e.g. polypropylene), to processes for preparing such blends and to uses of such blends, for example, as a surface for killing and/or inhibiting the growth of a microbe. The present application also relates to plastic compounds for use in forming such antimicrobial plastic blends as well as processes for preparing such plastic compounds.



Method for wet surface treating non-conductive plastic

Patent #: WO2020/256220

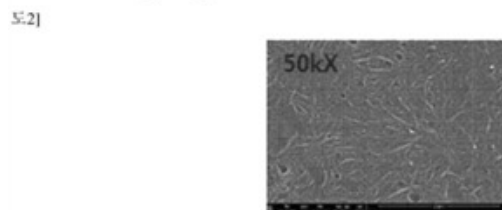
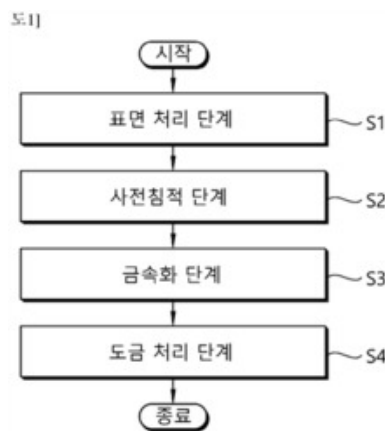
Publication date: 2020-12-24

Applicant(s): DAEYOUNG ENGINEERING

Inventor: KIM, SUN-YOUNG

Abstract

The present invention relates to a method for wet surface treating a non-conductive plastic, the method comprising: a step for modifying the surface of a non-conductive plastic; a pre-dip step for treating the surface-modified surface of the non-conductive plastic with hydrochloric acid to control surface pH and surface charge; a step for using at least one among an active solution containing a noble metal colloid and an ionogenic noble metal active solution on the surface of the pre-dipped non-conductive plastic to metallize the same; and a step for plating the surface of the metallized non-conductive plastic in order to impart conductivity thereto.



Metallized packaging films made of recycled plastics

Patent #: DE202020104646

Publication date: 2020-09-24

Applicant(s): KBG KUNSTSTOFF BETEILIGUNGEN

Inventor: RIEKER FRANK

Abstract

Multilayer plastic film (1), in particular multilayer plastic composite film, preferably multilayer plastic packaging film, based on recycled plastic (recycled plastic), in particular based on recycled plastic originating from waste, and having barrier layer properties (barrier properties) with respect to water vapor and/or gases, preferably having barrier layer properties (barrier properties) with respect to water vapor and gases, wherein the multilayer plastic film (1) comprises a layer composite of a plurality of layers, in particular at least three, interconnected layers (1 a, 1 b, 1 c), wherein the multilayer plastic film (1) and/or the layer composite comprises a first outer film (1 a) and a second outer film (1 c) and a metal layer (1 b) arranged between the first outer film (1 a) and the second outer film (1 c), wherein the multilayer plastic film (1) has a plastic recycle content of at least 80% by weight, based on the multilayer plastic film (1).

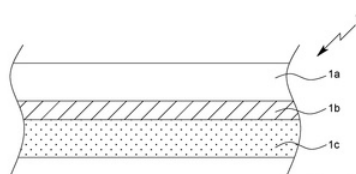


Fig. 1

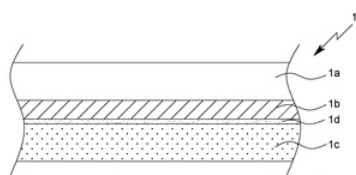


Fig. 2

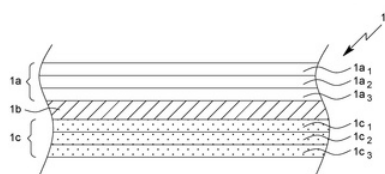


Fig. 3

Natural fiber plastic composite precursor material for compounding, method for preparing thereof and method for preparing natural fiber plastic composite product

Patent #: WO2021/005260

Publication date: 2021-01-14

Applicant(s): UPM KYMMENE

Inventor: NIKKOLA JUHA, KINNUNEN ARI, MARTTILA HEIKKI, KOSKI ANNA, LIIMATAINEN JUHANA

Abstract

The present disclosure relates to a natural fiber plastic composite precursor material comprising 60–95% (w/w) of wood powder having an average particle diameter of 300 µm or less, 3–7% (w/w) of coupling agent, 0–7% (w/w) of thermoplastic polymer, and 0–1% (w/w) of lubricant and/or wax, such as 0.1– 0.6% (w/w), wherein the material is in form of pellets, and to a method for5 preparing thereof. The present disclosure also relates to a method for preparing a natural fiber plastic composite product.

$$\rho = \frac{\textit{mass of fibre}}{\textit{volume of fibre}}$$