



New connection on: : 06-10-2018 : 00:51:45 - Last disconnection on: : 05-10-2018 : 21:31:48

V 4.0.0.44358(LP,U,linux) (Rev:43856 2017-04-27 09:03:29 +0200#(D201802)) (RPM D201802)

Welcome to EPOQUE Rebuild under the Production Environment

[EPODOC: SS 1] recycling and aluminum and (plastic or polymer)

Results in EPODOC 298

[SS 2] 1 and (wast+ or resid+ or reus+)

Results in EPODOC 150

[SS 3] 2 and solvent

Results in EPODOC 7

[SS 4] ..li



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PN - [SG10201806145P](#) A 20180830

PR - BR20141028989
20141120; BR20151028864
20151117

AP - SG20181006145P 20151118

DT - I

CCI - [C08J11/08](#)

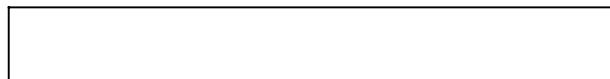
CUI - [B09B3/0016](#) ; [B29B17/02](#) ;
[C08J11/06](#) ; [C22B21/0069](#)

CCA - [C22C21/00](#) ; [F27D11/06](#) ;
[C08J2323/06](#) ; [C08J2323/10](#) ;
[Y02W30/701](#) ; [Y02P10/253](#)

CUA - [B29K2705/02](#) ; [B29B2017/0251](#) ;
[B29B2017/0268](#) ;
[B29B2017/0286](#) ;
[B29B2017/0293](#)

PA - OLIVEIRA JUAREZ SOUZA DE [BR]

TI - PROCESS FOR **RECYCLING** BY
SEPARATING THE CONSTITUENTS



OF ALUMINIZED AND PLASTIFIED
PACKAGING, CARTONED OR NOT,
AND CORRESPONDING
EQUIPMENT

AB - PROCESS FOR **RECYCLING** BY
SEPARATING THE CONSTITUENTS
OF ALUMINIZED AND PLASTIFIED
PACKAGING, CARTONED OR NOT,
AND CORRESPONDING
EQUIPMENT The present patent
refers to a process for
the **recycling** and recovery
of **waste**, particularly that of
plastified and aluminized
packaging, cartoned or not, by
means of a method and
equipment for extracting and
separating the main components
present in them for the recovery
of **waste**, avoiding
environmental
pollution, **recycling of waste**
constituents, and recovery of
constituents: **Plastic, aluminum**
and paper in their original form,
with the steps A, B, C, D, E, F, G, H,
I, J, L, M, O, P, Q e R, bringing
advantages of
obtaining **reusable**
grade **polymer**; obtaining
isolated **aluminum**; to make use
of a low cost and low energy
consuming **solvent**; to allow the
pulp cellulose to be recycled in
the production of paperboard for
boxes, to be incorporated as part
of a mechanical pulp load or
even to be incorporated to the
bleaching process; to have lower
processing and investment costs
and to have a lower cost/benefit
ratio. (Figure 1)

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PN - [CN107599234](#) A 20180119

PR - CN20171613000 20170725

AP - CN20171613000 20170725

DT - I



PA	- ANHUITENGYUEALUMINUM PLASTIC CO LTD
TI	- Waste aluminum and plastic separating and recycling process
AB	- The invention discloses a waste aluminum and plastic separating and recycling process which comprises the specific steps of: inputting a waste aluminum plastic composite packaging material into a crushing cutter to be crushed to particles, then putting the crushed aluminum plastic material in a stirring barrel, putting an organic solvent in the stirring barrel till the aluminum plastic material is fully immersed, stirring the mixture at a rotating speed of 200-500 r/min for 2-8h, and separately washing a plastic material floating on the surface of the organic solvent and an aluminum foil material precipitated in the bottom of the stirring barrel with clean water; pelletting and remolding the cleaned dry plastic material to obtain a finished plastic , and putting the dried aluminum foil material precipitated in the bottom of the stirring barrel in a reaction container for secondary separation; and adding a 1- 2mol/L hydrochloric acid solution into the reaction container, stirring the mixture for 2-5h at 30-70 DEG C, filtering and washing the mixture to obtain a filtrate for later use, and pelletting and remolding the filter residues and the plastic material separated in the step 1 together. By combining an organic solvent method and a chemical separating method to achieve separation, the method is thorough in separation and the product is wide in

application field.

3/7 © EPODOC / EPO

PN - [US2017342233](#) A1 20171130

PR - BR20141028989
20141120; BR20151028864
20151117; WO2015BR50222
20151118

AP - US201515528120 20151118

DT - **

CCI - [C08J11/08](#)

CUI - [B09B3/0016](#) ; [B29B17/02](#) ;
[C08J11/06](#) ; [C22B21/0069](#)

CCA - [C22C21/00](#) ; [F27D11/06](#) ;
[C08J2323/06](#) ; [C08J2323/10](#) ;
[Y02W30/701](#) ; [Y02P10/253](#)

CUA - [B29K2705/02](#) ; [B29B2017/0251](#) ;
[B29B2017/0268](#) ;
[B29B2017/0286](#) ;
[B29B2017/0293](#)

PA - OLIVEIRA JUAREZ SOUZA DE [BR]

TI - PROCESS FOR **RECYCLING** BY
SEPARATING THE CONSTITUENTS
OF ALUMINIZED AND PLASTIFIED
PACKAGING, CARTONED OR NOT,
AND CORRESPONDING
EQUIPMENT

AB - The present patent refers to a
process for the **recycling** and
recovery of **waste**, particularly
that of plastified and aluminized
packaging, cartoned or not, by
means of a method and
equipment for extracting and
separating the main components
present in them for the recovery
of **waste**, avoiding
environmental
pollution, **recycling of waste**
constituents, and recovery of
constituents: **Plastic, aluminum**
and paper in their original form,
with the steps A, B, C, D, E, F, G, H,
I, J, L, M, O, P, Q e R, bringing
advantages of
obtaining **reusable**

--

grade **polymer**; obtaining isolated **aluminum**; to make use of a low cost and low energy consuming **solvent**; to allow the pulp cellulose to be recycled in the production of paperboard for boxes, to be incorporated as part of a mechanical pulp load or even to be incorporated to the bleaching process; to have lower processing and investment costs and to have a lower cost/benefit ratio.

4/7 © EPODOC / EPO

PN - [EP3222657](#) A1 20170927

PNFP - EP3222657 A4 20180822

PR - BR20141028989
20141120; BR20151028864
20151117; WO2015BR50222
20151118

AP - EP20150861537 20151118

DT - *; Rep

CCI - [C08J11/08](#)

CUI - [B09B3/0016](#) ; [B29B17/02](#) ;
[C08J11/06](#) ; [C22B21/0069](#)

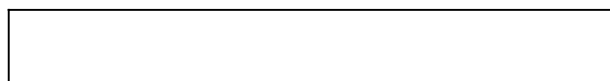
CCA - [C22C21/00](#) ; [F27D11/06](#) ;
[C08J2323/06](#) ; [C08J2323/10](#) ;
[Y02W30/701](#) ; [Y02P10/253](#)

CUA - [B29K2705/02](#) ; [B29B2017/0251](#) ;
[B29B2017/0268](#) ;
[B29B2017/0286](#) ;
[B29B2017/0293](#)

PA - (A1 A4)
OLIVEIRA JUAREZ SOUZA DE [BR]

TI - (A1 A4)
PROCESS FOR **RECYCLING** BY
SEPARATING THE CONSTITUENTS
OF ALUMINIZED AND
PLASTICIZED, OPTIONALLY
CARTON, CONTAINERS, AND
RESPECTIVE EQUIPMENT

AB - (A1)
The present patent refers to a
process for the **recycling** and
recovery of **waste**, particularly



that of plastified and aluminized packaging, cartoned or not, by means of a method and equipment for extracting and separating the main components present in them for the recovery of **waste**, avoiding environmental pollution, **recycling of waste** constituents, and recovery of constituents: **Plastic, aluminum** and paper in their original form, with the steps A, B, C, D, E, F, G, H, I, J, L, M, O, P, Q e R, bringing advantages of obtaining **reusable** grade **polymer**; obtaining isolated **aluminum**; to make use of a low cost and low energy consuming **solvent**; to allow the pulp cellulose to be recycled in the production of paperboard for boxes, to be incorporated as part of a mechanical pulp load or even to be incorporated to the bleaching process; to have lower processing and investment costs and to have a lower cost/benefit ratio.

5/7 © EPODOC / EPO

PN - [JPS58138707](#) A 19830817
 PNFP - JPH0345083B B2 19910710
 PR - JP19820019680 19820212
 AP - JP19820019680 19820212
 DT - I
 CT - || STSE (A)
[JPS4983784](#) A 19740812 []
 CCA - [Y02P20/584](#)
 FI - C08F10/00; C08F2/00+MAW;
 C08F2/02; C08F2/02+MAN;
 C08F2/04; C08F2/06+MAW;
 C08F4/00+MFG; C08F4/60
 FT - 4J011/HB15; 4J011/HB22;
 4J100/AA02P; 4J100/AA03P;
 4J100/AA04P; 4J100/AA17P;
 4J100/AS01Q; 4J100/AS11Q;



4J100/CA01; 4J100/CA04;
4J100/CA11; 4J100/FA09;
4J100/FA19; 4J100/GD03;
4J128/AA01; 4J128/AA02;
4J128/AB01; 4J128/AB02;
4J128/AC04; 4J128/AC05;
4J128/AC06; 4J128/AC07;
4J128/BA00A; 4J128/BA01A;
4J128/BA01B; 4J128/BA02B;
4J128/BB00A; 4J128/BB01A;
4J128/BB01B; 4J128/BC01B;
4J128/BC04A; 4J128/BC14A;
4J128/BC14B; 4J128/BC15B;
4J128/BC16B; 4J128/BC17B;
4J128/BC19B; 4J128/BC20B;
4J128/BC24B; 4J128/BC25B;
4J128/BC27B; 4J128/BC28B;
4J128/BC29B; 4J128/BC32B;
4J128/BC34B; 4J128/BC37B;
4J128/BC38A; 4J128/BC39A;
4J128/CA02A; 4J128/CA02B;
4J128/CA15A; 4J128/CA16A;
4J128/CA20A; 4J128/CA20B;
4J128/CA22A; 4J128/CA25A;
4J128/CA42A; 4J128/CB22A;
4J128/CB23A; 4J128/CB25A;
4J128/CB27A; 4J128/CB30A;
4J128/CB35A; 4J128/CB36A;
4J128/CB39A; 4J128/CB42A;
4J128/CB43A; 4J128/CB44A;
4J128/CB45A; 4J128/CB47A;
4J128/CB49A; 4J128/CB50A;
4J128/CB52A; 4J128/CB53A;
4J128/CB54A; 4J128/CB56A;
4J128/CB57A; 4J128/CB58A;
4J128/CB59A; 4J128/CB62A;
4J128/CB62C; 4J128/CB63A;
4J128/CB64A; 4J128/CB66A;
4J128/CB68A; 4J128/CB72C;
4J128/CB73C; 4J128/CB74A;
4J128/CB74C; 4J128/CB79A;
4J128/CB93B; 4J128/DA02;
4J128/DA08; 4J128/DB02A;
4J128/DB02C; 4J128/DB03A;
4J128/DB03C; 4J128/DB04C;
4J128/DB05A; 4J128/DB05C;
4J128/EA01; 4J128/EB02;
4J128/EB04; 4J128/EB05;
4J128/EB07; 4J128/EB10;

4J128/EB12; 4J128/EB15;
4J128/EC01; 4J128/EC02;
4J128/ED01; 4J128/ED02;
4J128/ED04; 4J128/ED05;
4J128/ED08; 4J128/ED09;
4J128/EF03; 4J128/EF05;
4J128/FA01; 4J128/FA02;
4J128/FA07; 4J128/FA09;
4J128/GA05; 4J128/GA07;
4J128/GB02

PA	- (A) MITSUI PETROCHEMICAL IND
TI	- (A) PREPARATION OF POLYOLEFIN
AB	- (A) PURPOSE:To prepare a highly stereoregular polymer in high yield, and to reduce the cost of solvent purification, by polymerizing an olefin in liquid phase using a catalyst containing a highly active Ti catalyst component, and recycling and reusing the liquid phase to the polymerization system. CONSTITUTION:An olefin is polymerized in liquid phase by using a catalyst composed of (A) a highly active Ti catalyst component containing Mg, Ti and halogen (preferably Cl) as essential components and usually obtained by contacting an Mg compound with a Ti compound (preferably TiCl ₄), and if necessary, with an electron donor, (B) an organo-Al compound (preferably triethyl aluminum , etc.) and (C) an organo-Si compound (preferably methyltrimethoxysilane, etc.) or a hindered amine (e.g. 2,6-substituted piperidine, etc.). The liquid phase obtained by separating the polymer from the polymerization reaction mixture is recycled and reused to the

polymerization reaction system.

6/7 © EPODOC / EPO

PN - [EP1683829](#) A1 20060726

PNFP - EP1683829 B1 20090826

PR - KR20050006157 20050124

AP - EP20050028722 20051230

DT - *; Rep

CT - || STSE (A1)
[WO2004031274](#) A1 20040415
[A] (MUKHOPADHYAY ASHUTOSH [IN])
[A] 1
* claims 1,2,4,6,7,11 *;
[XP002384469](#) A[A];
[ES2211345](#) A1 00000000 [A];
[ES2211345](#) A1 20040701 [
] (NEOPLASTICA ESPANA S A [ES]);
[EP0543302](#) A1 19930526
[A] (KERSTING JOHANNES [DE])
[A] 1
* claim 1 *

CTNP - || STSE (A1)
[A] - DATABASE WPI, 0, Derwent
World Patents Index, vol. 2004, no.
52, Database accession no. 2004-
535445, XP002384469
& ES2211345 A1 20040701
(NEOPLASTICA ESPAN SA)
[A] 1
* abstract *

CCI - [B29B17/02](#) ; [C08J11/06](#) ; [C08J11/08](#)

CCA - [B29K2705/08](#) ; [B29L2007/00](#) ;
[B29B17/0404](#) ; [B29B17/0412](#) ;
[B29K2023/06](#) ; [B29K2023/083](#) ;
[B29K2023/12](#) ; [B29K2067/00](#) ;
[B29K2705/02](#) ; [B29L2007/008](#) ;
[B29L2009/003](#) ; [B29B2017/0203](#) ;
[B29B2017/0244](#) ; [B29B2017/0255](#) ;
[B29B2017/0293](#) ; [B29B2017/0296](#) ;
[B29K2705/00](#) ; [Y02W30/625](#) ;
[Y02W30/801](#) ; [Y02W30/622](#) ;
[Y02W30/524](#) ; [Y02W30/701](#)

PA - (A1 B1)
KOREAN INST OF IND TECHNOLOGY
[KR]

TI - (A1 B1)



A **recycling** method of multilayer packaging film **waste**

- AB - (A1)
Disclosed is a method of reclaiming a multilayered film which comprises a **plastic** layer including polyester (PET), polypropylene (PP), and polyethylene (PE) as main components, and an **aluminum** layer. The method comprises selective dissolution of **aluminum**, separation using a difference in specific gravity, selective extrusion using a difference in melting point, and selective dissolution using an organic **solvent**.

7/7 © EPODOC / EPO

- PN - [WO2008022415](#) A1 20080228
PR - BR2006PI03719 20060821
AP - WO2007BR00034 20070208
DT - *; Rep
CT - || STSE (A1)
[DE19924707](#) A1 20001130
[A] (MERCK PATENT GMBH [DE]);
[US6150050](#) A 20001121
[A] (VALENCE TECHNOLOGY INC [US]);
[CN1819326](#) A 20060816
[A] (UNIV DONGNAN [CN])
CCI - [H01M6/52](#)
CCA - [Y02W30/84](#)
PA - LG ELETRONICS DE SAO PAULO LTD [BR]; BOZZO MARCELO [BR]
TI - PROCESS FOR THE EXTRACTION OF LITHIUM COMPOUNDS FOUND IN SECONDARY LITHIUM-ION BATTERIES
AB - To proceed with the separation of lithium compounds, this process starts with the extraction of lithium from electrodes and separators by immersing them into a mixture of commercial ethanol and acetone at 5%. Preferably, after two



hours the extraction will be completed, the electrodes, separators, nickel contacts, **aluminum** contacts and **plastic** tapes are removed and they are used subsequently for **recycling** and the solution is filtered in order to obtain the lithium compound, which is then dried and weighed. The filtrate, besides the lithium compounds, the alcohol solution, acetone, **solvent residues**, battery electrolytes are obtained. Apart from that, the filtrate obtained from filtering (alcohol, acetone and batteries electrolyte **residues**) is distilled, obtaining alcohol at 960GL that can be used again in the extraction process of lithium compounds.

[SS 4]