

Published:
— with international search report (Art. 21(3))

(88) Date of publication of the international search report: 14 June 2012

(54) Title: PRODUCTION OF RENEWABLE BIO-GASOLINE

(57) Abstract: A process and system for separating bio-gasoline, bio-diesel and bio-fuel oil fractions from a bio-oil, and for producing a renewable gasoline including at least in part the bio-gasoline fraction, is provided. The process comprises separating bio-oil into a bio-gasoline fraction and a heavy fraction based on their boiling points. At least a portion of the bio-gasoline fraction is directly blended with a petroleum-derived gasoline, without any prior hydrotreatment, to thereby provide a renewable gasoline composition.
INTERNATIONAL SEARCH REPORT

PCT/US 11/55355

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - C10L 1/18 (2012.01)
USPC - 44/300; 208/1 5

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - C10L 1/18 (2012.01)
USPC - 44/300; 208/1 5

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

IPC(8) - C08B; C10G; C10L 1/18; C10L; (2012.01)
USPC - 44/300; $; 208/1 5, $

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWest (PGPB,USPT,USOC,EPAB,JPAB); USPTO: Espacenet; Google Patents; Google Scholar, Wikipedia, Google - ALDEHYDE BIOMASS BIO-OL CONDENSS DISTILLATION FRACTIONATS FURAN GAS GASOLINE KETONE OIL OXYGENATE PHENOL PYROLYS VAPOR

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Y</td>
<td>US 2010/0218417 A1 (Baudrey et al.) 02 September 2010 (02.09.2010) para [0060]; [0063]; [0072]; [0173]; [01 85]; [0195]; [0215]; [0216]; [0297] to [0300]; [0314] to [0316]</td>
<td>37, 39, 40, 42-47, 50, 53-57, 59, 61-63, 65, 66</td>
</tr>
<tr>
<td></td>
<td>US 2010/0212215 A1 (Agbelevo) 26 August 2010 (26.08.2010) para [0006]; [0008]; [0009]; [0030]; [01 10]; [0120]</td>
<td>1-36, 38, 41, 48, 49, 51, 52, 58, 60, 64</td>
</tr>
<tr>
<td>A</td>
<td>US 4,795,841 A (Elliot et al.) 03 January 1989 (03.01.1989) Table 1; Table 2; col 2, ln 16-25</td>
<td>1-66</td>
</tr>
<tr>
<td>A</td>
<td>US 2003/01 15792 A1 (Shabtai et al.) 26 June 2003 (26.06.2003) Table 1; Fig 2; para [0014]; [0015]; [0030]; [0032]; [0035]; [0042]</td>
<td>1-66</td>
</tr>
<tr>
<td>A</td>
<td>US 2009/0250376 A1 (Brandvold et al.) 08 October 2009 (08.10.2009) para [0067]; abstract</td>
<td>1-66</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:
*A* document defining the general state of the art which is not considered to be of particular relevance
*E* earlier application or patent but published on or after the international filing date
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
*O* document referring to an oral disclosure, use, exhibition or other means
*P* document published prior to the international filing date but later than the priority date claimed
*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*Z* document member of the same patent family

Date of the actual completion of the international search
13 February 2012 (13.02.2012)

Date of mailing of the international search report

24 FEB 2012

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. 571-273-3201

Authorized officer: Lee W. Young

PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774