

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/BR	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/BR2021/050056

Box No. I Basis of the report

- With regard to the **language**, this report is based on:
- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
 - ☐ international search (Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (Rule 12.4(a))
 - ☐ international preliminary examination (Rule 55.2(a) and/or 55.3(a))
 - With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☐ the international application as originally filed/furnished
☒ the description:
 - pages _____ as originally filed/furnished.
 - pages* **1-14** received by this Authority on **02.12.2021**
 - pages* _____ received by this Authority on _____☒ the claims:
 - Nos. _____ as originally filed/furnished.
 - Nos.* _____ as amended (together with any statement) under Article 19
 - Nos.* **1-11** received by this Authority on **02.12.2021**☒ the drawings:
 - pages **1-13** as originally filed/furnished.
 - pages* _____ received by this Authority on _____
 - pages* _____ received by this Authority on _____☐ a sequence listing – see Supplemental Box Relating to Sequence Listing.
 - ☒ The amendments have resulted in the cancellation of:
 - ☐ the description, pages _____
 - ☒ the claims, Nos. **12-14**
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since either they are considered to go beyond the disclosure as filed, or they were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in the Supplemental Box (Rule 70.2(c) and (c-bis)):
 - ☐ the description, pages _____
 - ☐ the claims, Nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ This report has been established:
 - ☐ taking into account **the rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.1(d-bis) and 70.2(e)).
 - ☐ without taking into account **the rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.1bis and 70.2(e)).
 - With regard to top-up searches (Rules 66.1ter and 70.2(f)):

☐ A top-up search was carried out by this Authority on _____
☐ Additional relevant documents have been discovered during the top-up search.
☒ No top-up search was carried out by this Authority because it would serve no useful purpose.
☐ Supplementary international search report(s) from Authority(ies) _____
 - ☐ has/have been received and taken into account in establishing this report (Rule 45bis.8(b) and (c)).
- * If item 4 applies, some or all of those sheets may be marked "superseded."

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International application No.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	<u>1-11</u>	YES
	Claims	<u>- - -</u>	NO
Inventive step (IS)	Claims	<u>1-11</u>	YES
	Claims	<u>- - -</u>	NO
Industrial applicability (IA)	Claims	<u>1-11</u>	YES
	Claims	<u>- - -</u>	NO
2. Citations and explanations (Rule 70.7)			
The present report is based on the amendments and arguments submitted (see Box I). D1: BR MU8700104 U (PACKAGING SOLUTIONS S C LTDA [BR]) 26 August 2008 (2008-08-26) D2: EP 0046038 A2 (INT CHEM CO LTD [GB]) 17 February 1982 (1982-02-17) The invention defined in claims 1-11 is considered novel and complies with PCT Article 33(2) because the cited prior art documents do not disclose the invention. Document D1 is considered the most representative prior art and discloses a deodorant application package in 4 parts, including a storage portion (1) connected by screw threads to the application portion (2) with a shoulder and an application sphere (3), as well as a cap (4), wherein uncoupling the storage portion allows a product refill to be mounted. See the description, pages 1-7 and figures 1-4. Document D2 describes a package for dispensing depilatory			

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products or other cosmetic products, using a sphere (3), and comprising a housing (2) for the sphere, a product storage body (1) and a cap (4). The parts are fitted together by means of screw threads (5, 6). See the description, page 1, lines 17-29; page 4, lines 4-34; page 5, lines 10-21; and figures 1-3.

However, none of the documents cited in the search report discloses the ranges of inclination of the screw threads between the parts of the applicator package, wherein the force required to unscrew the storage portion 3 is much higher than the force required to unscrew the cap 1. This effect results from specific technical features, including the connection between the cap and the applicator by an internal screw thread on the cap and an external screw thread on the applicator, a range of inclination of the internal screw thread on the cap relative to the external screw thread on the applicator from 3.50 to 6.0 degrees, the connection between the storage portion and the applicator by an internal screw thread on the applicator and an external screw thread on the storage portion, and a range of inclination of the internal screw thread on the applicator relative to the external screw thread on the storage portion from 0.50 to 1.90 degrees.

The technical features defined in independent claim 1 are not obvious to a person skilled in the art from the cited prior art documents when considered alone or in any combination. Consequently, the invention defined in claims 1-11 involves an inventive step (PCT Article 33(3)).

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The subject matter of claims 1-11 is considered industrially applicable and therefore complies with PCT Article 33(4).

Box No. VII **Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

Although independent claim 1 is drafted in the two-part form, the technical features “refillable bottle comprising a cap that can be connected to an applicator and a storage portion that can be connected to the applicator, wherein the cap, the applicator and the storage portion are connected by screw threads arranged on the cap, on the applicator and on the storage portion, the cap is connected to the applicator by an internal screw thread on the cap and an external screw thread on the applicator, and the storage portion is connected to the applicator by an internal screw thread on the applicator and an external screw thread on the storage portion” are incorrectly included in the characterising part because they have already been described in the prior art (PCT Rule 6.3(b)).

Document **D1** discloses in claim 1: “A refillable bottle (10) comprising a cap (4) that can be connected to an applicator (2) and a storage portion (1) that can be connected to the applicator (2), wherein the cap (4), the applicator (2) and the storage portion (1) are connected by screw threads located on the cap (4), on the applicator (2) and on the storage portion (1), the cap is connected to the applicator by an internal screw thread on the cap and an external screw thread on the applicator, and the storage portion (1) is connected to the applicator (2) by an internal screw thread on the applicator (1) and an external screw thread (7) on the storage portion (1)”. See D1, pages 1-7 and figures 1-4.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Cover sheet, IPC

IPC: A45D 34/04 (2006.01), B65D 47/04 (2006.01),
B65D 25/38 (2006.01), B65D 83/00 (2006.01), B65D 41/04
(2006.01)

CPC: A45D 34/041