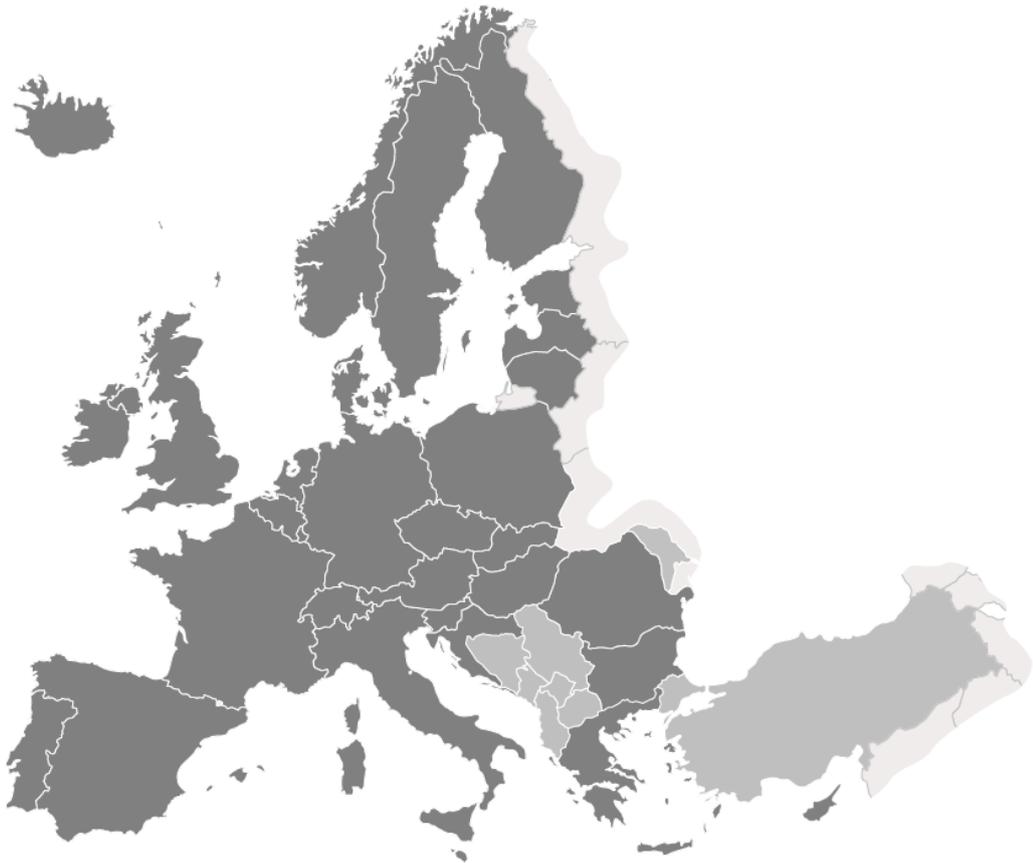


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2018

WELMEC

European Cooperation in Legal Metrology

Guidance and Information on Units of Weight or Volume used on Prepackages



WELMEC

European Cooperation in Legal Metrology

WELMEC is a cooperation between the legal metrology authorities of the Member States of the European Union and EFTA.

This document is one of a number of Guides published by WELMEC to provide guidance to packers, importers and the Competent Departments responsible for ensuring the prepackages meet the specified requirements.

The Guides are purely advisory and do not themselves impose any restrictions or additional technical requirements beyond those contained in relevant EU Directives.

Alternative approaches may be acceptable, but the guidance provided in this document represents the considered view of WELMEC as to the best practice to be followed.

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Foreword

The WELMEC Working Group 6 was set up to discuss and propose solutions for problems associated with trading of prepackages. It was decided to produce a document that clarifies the approach on packing of non-liquid products by volume.

This document gives guidance on what 'liquid' products are and indicates appropriate density measurement techniques for both packers and Competent Departments. It also gives information in the Annex on national requirements and trade practices that exist for liquid and non-liquid products, by indicating the use of different units of measurement for particular prepacked product groups in the various participating Member States.

This document is intended for packers, importers and Competent Departments. Information contained in this document is intended to assist in removal of barriers to trade.

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1 Background

An indication of the nominal quantity of prepacked products is required by Directive 76/211/EEC¹ (hereafter referred to as ‘the Directive’). Prepackages must bear an indication of the weight or volume of the product, known as ‘nominal weight’ or ‘nominal volume’, which they are required to contain².

The Directive does not refer to products sold by ‘number’ or in units of ‘length’ or ‘area’.

Currently, except for food, wines and spirits, European legislation does not provide specific requirements which relate to units of measurement to be used for particular groups of products; the legislation relates only to product consistency: liquid or non-liquid.

To solve any existing problems of interpretation or of marking semi-solid products, guidance on the interpretation of the Directive is therefore necessary.

2 Regulations

In the existing European legislation, the following references can be found regarding the units of measurement.

2.1 General requirements

2.1.1 The Directive states³: ‘Prepackages containing liquid products shall be marked with their nominal volume and prepackages containing other products shall be marked with their nominal weight, except in the case of trade practice or national regulations which provide otherwise and which are identical in all Member States, or in the case of contrary Community rules.

If trade practice or national regulations are not the same in all Member States for a category of products or for a type of prepackage, those prepackages must at least show the metrological information corresponding to the trade practice or national regulations prevailing in the country of destination’.

2.1.2 For food products, Regulation 1169/2011⁴ (hereafter referred to as ‘the Food Regulation’) overrides national legislation and gives the following requirements⁵:

‘The net quantity of a food shall be expressed using litres, centilitres, millilitres, kilograms or grams, as appropriate:

- a) in units of volume in the case of liquid products;
- b) in units of weight in the case of other products’.

However, Member States have been able to maintain national measures adopted before 12 December 2011, which are not following the above, if they have informed the European Commission about these by 13 December 2014⁶. These notifications can be found in Annex I of

¹ Council Directive 76/211/EEC of 20 January 1976 on the approximation of the laws of the Member States relating to the making-up by weight or by volume of certain prepackaged products.

² Directive 76/211/EEC, Article 4.1.

³ Directive 76/211/EEC, Article 4.2 and 4.3.

⁴ Regulation (EU) No 1169/2011 of The European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004.

⁵ Regulation (EU) No 1169/2011, Article 23.

⁶ Regulation (EU) No 1169/2011, Article 42.

the informative document WELMEC INFO 6-001, 2016: Overview of the Food Information Regulation impact on prepackages⁷.

2.2 Requirements for particular products

2.2.1 Wines and spirits

Directive 2007/45/EC⁸ gives requirements concerning the labelling and the nominal quantities of prepackages containing wines and spirits.

2.2.2 Aerosol dispensers

Directive 75/324/EEC on aerosol dispensers⁹ requires the net contents, including the quantity of propellant, of aerosols to be marked in both weight and volume.

Directive 2007/45/EC derogates from this requirement stating: 'By way of derogation from Article 8(1)(e) of Council Directive 75/324/EEC of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers, products which are sold in aerosol dispensers need not be marked with the nominal weight of their contents'¹⁰.

In the case of compartmented aerosols, the nominal quantity will not include the quantity of the propellant (gas or liquid), which is contained separately within the aerosol container and is not expelled.

2.2.3 Feed material

Regulation (EC) 767/2009¹¹ gives requirements in reference to feed material or compound feed. This Regulation requires labelling of the net quantity expressed in units of weight in the case of solid products, and in units of weight or volume in the case of liquid products.

2.2.4 Detergents

Regulation (EC) 648/2004 on detergents requires among others an indication of dosage¹². However, where the detergents are made up to a quantity predetermined by the packer, and expressed in units of weight or volume, the prepackages must meet the requirements of the Directive in nominal quantity labelling.

2.2.5 Soil improvers and growing media

The European standards EN12579, EN12580 and EN15238 cover the sampling and quantity determination of soil improvers and growing media. The general trade practice is to mark prepackages with the volume of product, but also permits the weight if accompanied by the moisture content.

⁷ http://www.welmec.org/fileadmin/user_files/publications/WG_06/Informative/WELMEC_INFO_6-001_2016_Overview_of_FIR_v_76-211-EEC.pdf

⁸ Directive 2007/45/EC of the European Parliament and of the Council of 5 September 2007 laying down rules on nominal quantities for prepacked products, repealing Council Directives 75/106/EEC and 80/232/EEC, and amending Council Directive 76/211/EEC, Annex.

⁹ Council Directive 75/324/EEC of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers, Article 8.1, e.

¹⁰ Directive 2007/45/EC, Article 4.2.

¹¹ Regulation (EC) No 767/2009 of the European Parliament and of the Council of 13 July 2009 on the placing on the market and use of feed, amending European Parliament and Council Regulation (EC) No 1831/2003 and repealing Council Directive 79/373/EEC, Commission Directive 80/511/EEC, Council Directives 82/471/EEC, 83/228/EEC, 93/74/EEC, 93/113/EC and 96/25/EC and Commission Decision 2004/217/EC, Article 15 (e).

¹² Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, Annex VII, B.

2.2.6 Cosmetic products

Regulation (EC) 1223/2009 on cosmetic products¹³ states that 'Without prejudice to other provisions in this Article, cosmetic products shall be made available on the market only where the container and packaging of cosmetic products bear the following information in indelible, easily legible and visible lettering:

[...]

- (b) the nominal content at the time of packaging, given by weight or by volume, except in the case of packaging containing less than five grams or five millilitres, free samples and single-application packs; for pre-packages normally sold as a number of items, for which details of weight or volume are not significant, the content need not be given provided the number of items appears on the packaging. This information need not be given if the number of items is easy to see from the outside or if the product is normally only sold individually'.

2.3 International recommendation

The international OIML recommendation (OIML R 79)¹⁴ does not indicate units of measurement for particular products. However, OIML R 79 gives more detailed information than the Directive. OIML R 79 states¹⁵ that 'The quantity declaration shall generally be expressed as follows:

[...]

- a) in units of volume, if the product is liquid;
- b) in units of weight if the product is a solid, a gas or a liquefied gas;
- c) in units of weight, volume or both weight and volume, if the product is semi-solid or viscous;
- d) as count - if count is used it shall be clearly identifiable as the quantity declaration;

[...]

- e) in quantities based firmly on established general consumer usage and trade custom, if such quantities provide accurate and adequate information to the purchaser. For example, the declaration of contents of a liquid by weight, or of a solid, semi-solid, or viscous product by volume, or numerical count, may be used;
- f) for all measurement units excluding weight and products sold by number, the quantity of the product shall be expressed at the standard reference temperature of 20 °C. However, the quantity of frozen products shall be the quantity at the temperature required or specified by the manufacturer to maintain their composition or consistency in which they are normally used. Normally, the reference temperature would not appear on the label; or
- g) in units of weight or volume or both weight and volume according to national legislation, if in the form of an aerosol provided that if expelled with the product, the propellant in aerosol containers is included as part of the product. If both weight

¹³ Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products, Article 19.1.

¹⁴ OIML R 79 (2015): Labeling requirements for prepackaged products.

¹⁵ OIML R 79 (2015), paragraph 5.5.

and volume are declared, they shall both comply with the requirements of OIML R 87⁷.

3 Present situation

Prepacked products are marked with nominal quantities according to the following principles: European regulation, national legislation or trade practice. In all cases, e-marked prepackages should meet the requirements of the Directive.

For foods, unless the Member State has notified the continuance of national requirements to the European Commission¹⁶, the Food Regulation requires liquids to have a net quantity expressed in units of volume and all other products, including mixtures, suspensions, must have a net quantity expressed in units of weight. The European Commission has only informed WELMEC of six notifications¹⁷. The Food Regulation has effect in all Member States and take precedent over any national requirements that have not been notified to the European Commission.

In some Member States, national legislation for particular non-food products is broadly defined. Where no national legislation exists, packers should refer to the requirements given by the Directive and to trade practice.

The units of measurement of particular products according to trade practice in different Member States vary according to their own traditions and approaches, as products can be recognized as solid in one Member State and as liquid product in another (for example toothpaste).

For many products, it is clear what unit of measurement to use. However, in some Member States national legislation exists to mark solid non-food products in units of volume (for example firewood).

It has been necessary to examine the present situation for particular products, as specific EU legislation does not exist for all product groups. Annex I of this guidance gives information on units of measurements for particular products applied in Member States. Where this is not consistent a recommendation is made as to the unit of measurement to use for the quantity declaration where no national legislation exists.

Trade practices vary throughout the Member States. Therefore, references to trade practices 'identical in all Member States' exist only for certain products. Annex II of this guidance identifies where all participating Member States have identical trade practices for particular non-food product groups.

4 Indication of quantity

4.1 Recommendation

4.1.1 There is no definition given in European legislation for a liquid product. Some Member States¹⁸ apply to the definition of 'liquid' given by their national legislation. More information on that can be found in WELMEC Guide 6.10¹⁹.

¹⁶ Regulation (EU) No 1169/2011, Article 42.

¹⁷ Annex I of the informative document WELMEC_INFO_6-001,_2016:_Overview_of_the Food Information Regulation impact on Prepackages (http://www.welmec.org/fileadmin/user_files/publications/WG_06/Informative/WELMEC_INFO_6-001_2016_Overview_of_FIR_v_76-211-EEC.pdf).

¹⁸ AT, GB, DE and FR.

¹⁹ WELMEC Guide 6.10: Information on Controls on Prepacked Product, including Implementation of Council Directive 76/211/EEC, paragraph 7.

4.1.2 In case there is no national legislation referring to the unit of measurement of particular product groups to be used, WELMEC WG 6 recommends applying the following definition of liquid products:

'A liquid product is a product which is not intended to be used frozen, is in a liquid state at 20 °C and atmospheric pressure, will easily pour, leaves an insignificant amount of product on a 2.5 mm sieve and is not a powder. The time taken for pouring is likely to be less than one minute. After pouring, less than 1 % of the nominal quantity shall be left in the container, provided that the product can be discharged without the container being squeezed or undergoing other manipulations. If the container needs manipulation to get a free flow, either the constriction shall be removed (if there is any), or the product should be transferred into an open container of the same size before the test'.

Annex III of this document gives an illustration of a practical way to assess whether a product is liquid, which has been produced by WELMEC WG6.

4.1.3 Where a product meets the definition of 'liquid' in 4.1.2 it shall have a nominal quantity in units of volume. Solid particles (for example fruit particles in yoghurt) are not in a liquid state, thus products containing solid particles shall be marked in units of weight.

4.1.4 Where doubt exists, whether a product is a liquid product within the meaning of the above definition, the product shall be marked in units of weight.

4.1.5 For products where there are no European requirements specifying a quantity to be stated in weight or volume, the packer shall take into account national legislation or, if there is none, the trade practice existing in the Member State where the prepackage is intended to be sold.

4.1.6 Prepackages may be marked in both units of measurement, if national legislation does not prohibit this method of labelling. The second indication of quantity may be regarded as additional information, and as such it must not be misleading²⁰. WELMEC Guides provide information referring to the marking of prepackages containing more than one indication of quantity²¹.

Note: Double marking may cause difficulties for packers as well as inspectors as they have to examine both indications (weight and volume), meaning that they have to perform two checks. Also retailers may not know which indication they should use to calculate the unit price²².

4.1.7 Where a packer has an option to mark prepackages with either volume or weight, it is recommended that weight is used. This has the advantages of generally being more accurate, quicker, requiring less equipment and therefore maintenance of the equipment is less expensive. Furthermore, weight is not affected by temperature whereas the volume has to be that determined at 20 °C.

4.2 Figures and units of measurement

4.2.1 Prepacked products must bear the nominal quantity in such a manner as to be indelible, easily legible and visible on the prepackage in normal condition of presentation²³. The names of the units of measurement and their symbols used for labelling prepackages are listed in Table 1.

²⁰ Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council ('Unfair Commercial Practices Directive').

²¹ WELMEC Guide 6.4: Guide for packers and importers of e-marked prepacked products, paragraph 4.5 and WELMEC Guide 6.5: Guidance on Controls by Competent Departments on "e" marked Prepackages, Annex A.3.3.

²² Directive 98/6/EC of the European Parliament and of the Council of 16 February 1998 on consumer protection in the indication of the prices of products offered to consumers.

²³ Directive 76/211/EEC, Annex I, 3.

Table 1

	Full name of unit of measurement	Symbol
Weight	gram kilogram	g kg
Volume	millilitre centilitre litre	ml or mL cl or cL l or L

The letter 's' shall not be used after any of the symbols.

The nominal quantity should be expressed in figures followed by the full name or the symbol of the unit of measurement. To separate the number from the unit of measurement a single space should be used²⁴.

Any additional information like 'minimum' or '±' should not be used. However this may be permitted by national legislation, unless it is misleading.

4.2.2 The minimum height of the figures depends on the nominal quantity of the product and must be according to Table 2²⁵.

Table 2

Nominal quantity of the product (g or ml)		Minimum height of figures (mm)
from	up to and including	
5	50	2
50	200	3
200	1000	4
1000	-	6

4.2.3 The OIML R 79 recommends using different units of measurement depending on the nominal quantity of the product²⁶, as shown in Table 3.

Table 3

	Quantity of product (q)	Units
Weight	$q < 1 \text{ g}$ $1 \text{ g} \leq q < 1000 \text{ g}$ $q \geq 1000 \text{ g}$	mg g kg or t

²⁴ BIPM The International System of Units (SI), 8th edition 2006, paragraph 5.3.3.

²⁵ Directive 76/211/EEC, Annex I, paragraph 3.1.

²⁶ OIML R 79 (2015): Labeling requirements for prepackaged products, Annex A, Table A.2.

Volume	$q < 1000 \text{ mL}$ $q \geq 1000 \text{ mL}$	mL (ml) or cL (cl) L (l)
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5 The measurements

5.1 Determination of weight and volume

Determination of weight is performed using a weighing instrument. Volume can be determined either directly by measuring liquid in a measuring instrument or indirectly by converting weight and density to volume.

Further information on methods of measurements of weight and volume of prepackaged products can be found in WELMEC Guide 6.4²⁷.

5.2 Determination of density

5.2.1 It is necessary to determine the density of a product, if a prepackage is marked with a nominal quantity expressed in units of volume and the actual quantity of the prepackage is verified by weighing.

Note: Where the density varies from batch to batch it is permissible to use the highest density as the standard density of the product.

The method of density determination depends on the type of the product. The methods listed in Table 4 are taken from OIML G 14²⁸.

The method used should determine the density with sufficient accuracy to ensure that the total measurement error of the quantity of product is no greater than one-fifth of the TNE of the nominal quantity. Where this is not possible then the excess measurement error should be taken into account when the packer is establishing the target quantity (batch average).

Note: The packer should be able to determine the density with a sufficiently small error to be able to calculate and check the fill level. For further information about the accuracy of determination contact the local authorities.

Table 4

Product	Method
Liquids without CO ₂ or other gas	<ul style="list-style-type: none"> - plunger - pycnometer - hydrometer - electronic density-meter

²⁷ WELMEC Guide 6.4: Guide for packers and importers of e-marked prepacked products, paragraph 6.3.

²⁸ OIML G 14 (2011): Density measurement.

Products with or without CO ₂ in transparent but non-deformable container	- line marked bottle
Viscous liquids	- metallic pycnometer - electronic density-meter
Putties	- plunger method for putties - pycnometer with non-dissolving liquid
Aerosol products ²⁹	- electronic density meter, laboratory type - special high pressure pycnometer
Products in several phases in non-deformable and non-transparent container	- container used as pycnometer and filled with water
Products in several phases in deformable container	- transfer the product into Erlenmayer bottle used as pycnometer

OIML G 14 also gives information on suitable measuring instruments for the determination of density of particular products, as seen in Table 5.

Table 5

Measuring instrument	Products
Glass pycnometer	Clear liquids without CO ₂ or other solutes under pressure
Glass pycnometer (using filling with a	Pasty products: putties, glues, products conditioned in deformable tubes

²⁹ The European Aerosol Federation uses at least four different methods for the determination of the aerosol quantity:

- The pycnometer (test glass)
- The electronic density meter
- The calculation method, and
- The X-ray method

non-dissolving ancillary liquid)	
Metal pycnometer	Viscous and slightly pasty products (products of cleaning, lacquers, etc.)
Plunger	Clear and slightly viscous liquids without CO ₂ or other solutes. Because of the ease of cleaning the spherical plunger is particularly recommended for use with lacquers, paints and similar products of medium viscosity
Line marked bottle	Drinks containing CO ₂
Product container (filled to the brim)	Inhomogeneous products such as soups, drinks containing fruit, paint in several phases
Hydrometer	Non-carbonated liquids, liquid products with low viscosity and in a homogenous phase
Electronic density-meter	Non viscous liquids which contain neither air, nor CO ₂ and for which the density lies in the range of 0.7 to 1.2 g/ml

Various methods of density determination, their application, the choice of means depending on the type of product, and calculations are presented in OIML G 14.

5.2.1 Other guidance

Ice-cream

The recommended method for the density determination of ice-cream is an immersion upthrust method: the upthrust in water is measured by immersing the ice-cream, and the volume is calculated using the densities of ice-water at approximately 0 °C, of air and of the weights. The method is presented in OIML Bulletin № 96³⁰.

Growing media for plants and soil improvers

Methods for sampling and the determination of the density of soil improvers and growing media are presented in the European Standards EN 12579, EN 12580 and EN 15238.

³⁰ OIML Bulletin № 96, September 1984: Special Methods for Testing of Certain Types of Prepackages such as Sparkling Beverages, Aerosols, Ice-cream.

Annex I Units of measurement of particular prepacked products

Introduction

The following tables contain lists of requirements in national legislation in addition to the implementation of the Directive 76/211/EEC and trade practices (for products where no European requirements exists), which both refer to the application of units of measurement in Member States.

The Food Regulation specifies the unit of measurement to be used for food products, unless the member state has notified the European Commission. If a national legislation exists in a Member State, and has been notified to the European Commission, packers should follow this and mark the nominal quantity in the indicated unit of measurement.

Where no requirements in national legislation exist, the following tables give information on which units of measurement are applied for particular product groups due to trade practices in the various Member States.

If the quantity is stated in weight and volume, it is best practice to state the volume first if the product is liquid, for all other products the weight first so that the unit of measurement used for unit pricing is consistent.

Note: Data displayed in the following tables reflects the data reported by the Member States to WELMEC WG 6. Please be aware that not all Member States have reported their status.

Part 1 Food products

Food products are regulated by the Food Regulation, which requires liquids to be marked with the nominal quantity in volume and all other food products to be marked with weight. The following products are required to be marked as indicated, with the variations required by the notifications to the European Commission as listed in Annex I of the informative document WELMEC INFO 6-001, 2016: Overview of the Food Information Regulation impact on prepackages³¹.

1. Ice cream

The Food Regulation requires foods that are not liquids to be marked with the net quantity in units of mass. Ice cream is not a liquid when frozen in a prepackage and so must be marked with weight. The variations brought about by the notifications are:

GB: weight or volume.

DE: volume. Prepackages containing less than 200 ml of ice cream are exempted from mandatory declaration of filling quantity.

PL: weight or volume.

Recommendation for notifications: Where there is an option of either weight or volume, the best practice is to mark with weight, as required by the Food Regulation.

If the quantity is stated in weight and volume, it is best practice to state weight, as required by the Food Regulation, first so that the unit of measurement used for unit pricing is consistent.

³¹ http://www.welmec.org/fileadmin/user_files/publications/WG_06/Informative/WELMEC_INFO_6-001_2016_Overview_of_FIR_v_76-211-EEC.pdf

2. Butter, margarine, emulsified or non-animal and vegetable fats

The provisions of the Food Regulation require these products to be marked with volume if a liquid, otherwise by weight. The variations brought about by the notifications are:

GB: weight or volume.

DE: weight.

NL: the net quantity of high viscosity milk products in volume.

Recommendation for notifications: Where there is an option of either weight or volume, the best practice is to mark with the unit, as required by the Food Regulation.

If the quantity is stated in weight and volume, it is best practice to state the unit required by the Food Regulation first so that the unit of measurement used for unit pricing is consistent.

3. Fresh cheeses except 'petits suisses' and other cheeses put up in the same way

The provisions of the Food Regulation require these products to be marked with weight. The variations brought about by the notifications are:

DE: weight.

4. Yoghurt (drinking and eating)

The provisions of the Food Regulation require these products to be marked with volume if a liquid, otherwise by weight. The variations brought about by the notifications are:

GB: weight or volume.

DE: weight.

NL: the net quantity of high viscosity milk products in volume.

PL: weight or volume only for fermented dairy products and concentrated milk.

Recommendation for notifications: Where there is an option of either weight or volume, the best practice is to mark with the unit, as required by the Food Regulation.

If the quantity is stated in weight and volume, it is best practice to state the unit required by the Food Regulation first so that the unit of measurement used for unit pricing is consistent.

5. Dutch rusk

The provisions of the Food Regulation require this product to be marked with weight. No notifications has been made.

6. Syrup like treacle and molasses

The provisions of the Food Regulation require these products to be marked with volume if a liquid, otherwise by weight. The variations brought about by the notifications are:

GB: weight.

DE: weight if syrup is used as a sandwich spread.

7. Mayonnaise

The provisions of the Food Regulation require these products to be marked with volume if a liquid, otherwise by weight. The variations brought about by the notifications are:

GB: weight or volume.

DE: volume³².

PL: weight or volume.

Recommendation for notifications: Where there is an option of either weight or volume, the best practice is to mark with the unit, as required by the Food Regulation.

If the quantity is stated in weight and volume, it is best practice to state the unit required by the Food Regulation first so that the unit of measurement used for unit pricing is consistent.

8. Chocolate mousse

The provisions of the Food Regulation require this product to be marked with weight. The variations brought about by the notifications are:

GB: weight or volume.

NL: the net quantity of high viscosity milk products in volume.

Recommendation for notifications: Where there is an option of either weight or volume, the best practice is to mark with weight, as required by the Food Regulation

If the quantity is stated in weight and volume, it is best practice to state weight, as required by the Food Regulation, first so that the unit of measurement used for unit pricing is consistent.

9. Liquid egg yolk (non-frozen, non-powder)

The provisions of the Food Regulation require this product to be marked with volume. The variations brought about by the notifications are:

GB: weight or volume

TR: weight or volume

Recommendation for notifications:

Where there is an option of either weight or volume, the best practice is to mark with volume, as required by the Food Regulation

If the quantity is stated in weight and volume, it is best practice to state volume, as required by the Food Regulation, first so that the unit of measurement used for unit pricing is consistent.

³² In Germany the quantity must be stated in units of volume, even if the product is not classed as a liquid.

10. Ready to eat soup

The provisions of the Food Regulation require these products to be marked with volume if a liquid, otherwise by weight. The variations brought about by the notifications are:

GB: weight or volume.

DE: volume.

Recommendation for notifications: Where there is an option of either weight or volume, the best practice is to mark with the unit, as required by the Food Regulation.

If the quantity is stated in weight and volume, it is best practice to state the unit required by the Food Regulation first so that the unit of measurement used for unit pricing is consistent.

11. Condiment sauces such as chutney or ketchup

The provisions of the Food Regulation require these products to be marked with volume if a liquid, otherwise by weight. The variations brought about by the notifications are:

GB: weight or volume.

DE: volume.

PL: weight or volume for liquid seasonings and thick sauces.

Recommendation for notifications: Where there is an option of either weight or volume, the best practice is to mark with the unit, as required by the Food Regulation.

If the quantity is stated in weight and volume, it is best practice to state the unit required by the Food Regulation first so that the unit of measurement used for unit pricing is consistent.

12. Mustard

The provisions of the Food Regulation require these products to be marked with volume if a liquid, otherwise by weight. The variations brought about by the notifications are:

GB: weight or volume.

DE: volume.

Recommendation for notifications: Where there is an option of either weight or volume, the best practice is to mark with the unit, as required by the Food Regulation.

If the quantity is stated in weight and volume, it is best practice to state the unit required by the Food Regulation first so that the unit of measurement used for unit pricing is consistent.

13. Honey

The provisions of the Food Regulation require this product to be marked with weight, and the notifications are consistent with this.

Part 2 **Cosmetic products**

Cosmetic products are regulated by Regulation (EC) 1223/2009, which requires the nominal content at the time of packaging, given by weight or by volume, except in the case of packaging containing less than five grams or five millilitres, free samples and single-application packs.

This European Regulation establishes rules to be complied with by any cosmetic product made available on the market, in order to ensure the functioning of the internal market and a high level of protection of human health, and is applicable in all member states.

For prepackages normally sold as a number of items, for which details of weight or volume are not significant, the content need not be given provided the number of items appears on the packaging. This information need not be given if the number of items is easy to see from the outside or if the product is normally only sold individually.

14. Cosmetics, beauty and toilet preparations

Recommendation: Nominal quantity by weight, unless the preparation is a liquid as defined in section 4.1.2, then volume should be used.

15. Products for skin and oral hygiene (excluding toothpaste)

Recommendation: Nominal quantity by weight, unless the preparation is a liquid as defined in section 4.1.2, then volume should be used.

16. Shaving creams, all-purpose creams and lotions, hand creams and lotions, sun products

Recommendation: Nominal quantity by weight, unless the preparation is a liquid as defined in section 4.1.2, then volume should be used.

17. Toothpaste, including gels

Recommendation: Nominal quantity by weight, unless the preparation is a liquid as defined in section 4.1.2, then volume should be used.

18. Lacquer, shampoos, rinsing products, strengtheners, brilliantines, hair cream (excluding alcohol-based hair lotions, 'bubble baths' and other foaming products for bath and shower)

Recommendation: Nominal quantity by weight, unless the preparation is a liquid as defined in section 4.1.2, then volume should be used.

19. Soft soaps, liquid soaps

Recommendation: Nominal quantity by weight, unless the preparation is a liquid as defined in section 4.1.2, then volume should be used.

20. Alcohol-based products, containing less than 3 % by volume of natural or synthetic perfume oil and less than 70 % by volume of pure ethyl alcohol: aromatic waters, hair lotions, pre-shave and after-shave lotions

Recommendation: Nominal quantity by weight, unless the preparation is a liquid as defined in section 4.1.2, then volume should be used.

21. Deodorants and personal-hygiene products

Recommendation: Nominal quantity by weight, unless the preparation is a liquid as defined in section 4.1.2, then volume should be used.

Part 3 Chemical products

22. Paints and varnishes ready-to-use (with or without added solvents; excluding dispersed pigments and solutions)

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State	BE, DE, GB ¹	GB ²	AT	BG, CH, CY, DK, EE, ES, GR, LV, LT, NL, NO, PL, RS, SE, SI, SK, HR	CY, DK, EE, ES, NL, NO, RO, RS, SI, SE, HR		BG, CH, GR, LT, LV, PL, SK, TR	TR

1. For liquid paints and varnishes.

2. For paste paints.

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by volume.

If the quantity is stated in weight and volume, it is best practice to state volume first so that the unit of measurement used for unit pricing is consistent.

23. Solid or powdered glues and adhesives

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State		BE, DE	AT	BG, CH, CY, DK, EE, GB, GR, LT, LV, NL, NO, PL, RS, SE, SI, SK, HR		BG, CH, CY, EE, LV, NO, PL, RO, RS, SK, TR, HR	ES, GR, LT, NL, SI	

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by weight.

If the quantity is stated in weight and volume, it is best practice to state weight first so that the unit of measurement used for unit pricing is consistent.

24. Cleaning products including products for leather and footwear, wood and floor coverings, ovens and metals including for cars, windows and mirrors including for cars; stain removers, starches and dyes for household use, household insecticides, descalers, household deodorizers, non-pharmaceutical disinfectants

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State	DE, GB ¹	GB ²	AT, BE	BG, CH, CY, DK, EE, ES, GB ³ , GR, LT, LV, NL, NO, PL, RS, SE, SI, SK, HR	CY, DK, SK		BG, CH ⁴ , EE, ES, GR, LT, LV, NO, PL, RO ⁴ , RS, SI, TR	TR

1. Only for liquid detergents.
2. Only for non-liquid detergents, cleaning and scouring powders.
3. For all other products not included in 1 and 2 above.
4. Solid and powders in weight, liquids and paste in volume.

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by weight.

If the quantity is stated in weight and volume, it is best practice to state weight first so that the unit of measurement used for unit pricing is consistent.

25. Solid toilet and household soaps

These soaps are used for cleaning the house, cloths, etc. and so are not cosmetic products covered above in 14.

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State		BE, DE, GB, GR	AT	BG, CH, CY, DK, EE, ES, LT, LV, NL, NO, PL, RS, SE, SI, SK, HR		BG, CH, CY, DK, NL, NO, PL, RS, SI, TR, SE, SK, HR	EE, ES, LT, LV, RO	

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by weight.

If the quantity is stated in weight and volume, it is best practice to state weight first so that the unit of measurement used for unit pricing is consistent.

26. Liquid adhesives

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State	BE, DE		AT	BG, CH, CY, DK, EE, ES, GB, GR, LT, LV, NL, NO, PL, RS, SE, SI, SK, HR	BG, CY, DK, NO, EE, RO		CH, GR, ES, LT, LV, PL, RS, SI, TR, SK	TR

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by volume.

If the quantity is stated in weight and volume, it is best practice to state volume first so that the unit of measurement used for unit pricing is consistent.

27. Liquid washing, cleaning and scouring products and auxiliary products and hypochlorite preparations

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State	BE, DE, GB ¹		AT	BG, CH, CY, DK, EE, ES, GR, LT, LV, NL, NO, PL, RS, SE, SI, SK, HR	BG, CH, CY, DK, EE, ES, NL, NO, RO, RS, SI, SK, HR		GR, LT, LV, PL, TR	

1. Only for liquid detergents, no requirement for other products.

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by volume.

If the quantity is stated in weight and volume, it is best practice to state volume first so that the unit of measurement used for unit pricing is consistent.

28. Polishes in paste or wax

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State	BE, DE		AT, GB	BG, CH, CY, DK, EE, ES, GR, LT, LV, NL, NO, PL, RS, SE, SI, SK, HR		LT, RO	BG, CH, CY, DK, EE, ES, GR, LV, NL, NO, PL, RS, SI, SK, TR	

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by weight.

If the quantity is stated in weight and volume, it is best practice to state volume first so that the unit of measurement used for unit pricing is consistent.

29. Washing powder

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State		BE, DE, GB	AT, GR	BG, CH, CY, DK, EE, ES, LT, LV, NL, NO, PL, RS, SE, SI, SK, HR		BG, CH, CY, DK, EE, ES, LT, LV, NL, NO, PL, RO, RS, SI, TR, SE, SK, HR		

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by weight.

To comply with Regulation (EC) 648/2004 there must also be “the number of standard washing machine loads” and it is recommended that the unit pricing should be based on the number of washes as it is the most useful unit price for consumers in judging value for money.

If the quantity is stated in weight and volume, it is best practice to state weight first so that the unit of measurement used for unit pricing is consistent.

30. Liquid washing product (for clothes)

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State	BE, DE, GB, GR		AT	BG, CH, CY, DK, EE, ES, LT, LV, NL, NO, PL, RS, SE, SI, SK, HR	BG, CH, CY, DK, EE, ES, LV, NL, NO, RO, RS, SI, SK, TR, HR		LT, PL	

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by volume.

To comply with Regulation (EC) 648/2004 there must also be “the number of standard washing machine loads” and it is recommended that the unit pricing should be based on the number of washes as it is the most useful unit price for consumers in judging value for money.

If the quantity is stated in weight and volume, it is best practice to state volume first so that the unit of measurement used for unit pricing is consistent.

31. Dish washing tablets

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State		BE, DE, GB	AT	BG, CH, CY, DK, EE, ES, GR ¹ , LT, LV, NL, NO, PL, RS, SE, SI, SK, HR		BG, CH ³ , CY, DK, EE, ES, LT, LV ² , NL, NO ² , PL, RO, RS, TR ² , SE, SK		

1. Indication in pieces.
2. Weight and number.
3. In units of weight or per number.

Recommendation: Number of tablets plus if national regulations require a nominal quantity by weight.

To comply with Regulation (EC) 648/2004 there must also be “the number of standard washing machine loads” and it is recommended that the unit pricing should be based on the number of washes as it is the most useful unit price for consumers in judging value for money.

If the quantity is stated in weight and volume, it is best practice to state weight first so that the unit of measurement used for unit pricing is consistent.

Part 4 Other products

32. Dry foods for pets

Dry foods for pets are regulated by Regulation (EC) 767/2009, which requires labelling of the net quantity expressed in units of weight in the case of solid products, and in units of weight or volume in the case of liquid products.

33. Knitting yarns consisting of natural fibres (animal, vegetable and mineral), chemical fibres and mixtures thereof

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State		BE, DE, GB		AT, BG, CH, CY, DK, EE, ES, GR, LT, LV, NO, PL, RS, SE, SI, SK, HR		AT ¹ , BG, CH ² , CY, EE, ES, GR, LT, LV, NO, PL ¹ , RO, RS, SK, TR ¹		

1. Weight and/or length.
2. Weight or per length unit.

Recommendation: Nominal quantity by weight.

34. Sewing thread consisting of natural fibres (animal, vegetable and mineral), chemical fibres and mixtures thereof

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State		DE		AT, BG, CH ³ , CY ¹ , DK, GB ¹ , GR, EE, ES, LT, LV, NO ³ , PL, RS, SE, SI, SK ¹ , HR		AT ² , BE ² , LT, PL ² , RO, RS, TR ²	GR	

1. In units of length.

2. Weight and/or length.

3. No national requirements but it is sold in units of length.

Recommendation: Nominal length and if required by national legislation the quantity by weight.

35. Cat litter

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State	DE	BE, BG ¹		AT, BG, CH, CY, DK, EE, ES, GB, GR, SE, LT, LV, NL, NO, PL, RS, SI, SK, HR	GB, LT	AT	BG, CH, CY ² , DK, EE, ES, GR, LV, NL, NO, PL, RO, RS, SI, TR, SK ²	AT

1. Requirement for products within the scope of Directive 76/211/EEC.

2. In most cases in volume.

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by weight.

The method of determining volume needs to be defined. A possibly suitable method may be EN 12580 Determination of the Volume of growing media and soil improvers.

If the quantity is stated in weight and volume, it is best practice to state weight first so that the unit of measurement used for unit pricing is consistent.

36. Firewood

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State	GR	GB ³	DE	AT, BG, CH, CY, DK, EE, ES, LT, LV, NL, NO, PL, RS, SE, SI, SK, HR	BE, LT, LV, NL, NO	RO, SI, SK, TR ²	BG, CH ¹ , CY, EE, PL	

1. Sometimes labelled with both weight and volume.
2. In weight and number.
3. GB has national legislation permitting local government to enact a bye-law requiring wood to be sold by weight.

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by weight, with an indication of whether it has been 'seasoned' (dried naturally).

If the quantity is stated in weight and volume, it is best practice to state weight first so that the unit of measurement used for unit pricing is consistent.

37. Compost, potting soil or similar products

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State	BE, DE, GR	PL ²		AT, BG, CH, CY, DK, EE, ES, GB, SE, LT, LV, NO, RS, SI, SK, HR	AT ³ , BG, CY, GB ¹ , LT, NL, NO, RO, RS, SI, SK		CH, EE, LV, PL, TR	

1. Using EN 12580 and EN 15238 on filled volume.
2. For similar products (ex. crop substrates) other products in volume.
3. Using EN 12579 and EN 12580.

Recommendation: Unless a different unit is required by national legislation, nominal quantity should be by volume using EN 12580.

If the quantity is stated in weight and volume, it is best practice to state volume first so that the unit of measurement used for unit pricing is consistent.

38. Gas (propane, butane, oxygen)

	Requirements in national legislation in addition to the implementation of the Directive 76/211/EEC				Trade Practice (formalized by trade associations, trade of practice or otherwise or non-formalized)			
	Volume	Weight	Either weight or volume	None	Volume	Weight	Weight or volume	Both (weight and volume)
Member State		BE ³ , DE, GR	AT ² , GB	BE ⁴ , BG, CH, CY, DK, EE, ES, LT, LV, NL, NO, PL, RS, SE, SI, SK, HR		BE ⁴ , BG, CY, LT, LV, NL, NO, RO, RS, SI, SK, HR	CH ¹ , EE, PL, TR	

1. Big bottles mostly per weight, small bottles often per volume.
2. Individual requirements due to safety reasons.
3. With $Q_n > 10$ kg.
4. With $Q_n \leq 10$ kg.

Recommendation: Nominal quantity by weight.

Annex II EU trade practice and units of measurement used in the participating Member States

Table 1 contains a list of trade practices identical in all participating Member States (column 3: 'Trade practices equal in all participating Member States'). It is based on the data obtained from Member States, presented in Annex I.

Columns 4 and 5 show a statistical evaluation of the quantity declaration according to weight or volume, respectively. It is calculated on the basis of trade practices applied in the participating Member States, presented in Annex I.

Table 1

	Type of product	Trade practices equal in all participating Member States	The number of Member States where products are marked in weight or in volume	
			Weight	Volume
22.	Paints and varnishes ready-to-use (with or without added solvents; excluding dispersed pigments and solutions)	-	8	19
23.	Solid or powdered glues and adhesives	-	17	5
24.	Cleaning products including products for leather and footwear, wood and floor coverings, ovens and metals including for cars; stain removers, starches and dyes for household use, household insecticides, descalers, household deodorizers, non-pharmaceutical disinfectants	-	13	16
25.	Solid toilet and household soaps	-	18	5
26.	Liquid adhesives	-	10	16
27.	Liquid washing, cleaning and scouring products, and auxiliary products and hypochlorite preparations	-	5	18
28.	Polishes in paste or wax	-	17	15
29.	Washing powder	Weight	18	0
30.	Liquid washing powder (for clothes)	-	2	17
31.	Dish washing tablets	Weight	16	0
33.	Knitting yarns consisting of natural fibres (animal, vegetable and mineral), chemical fibres and mixtures thereof	Weight	11	0

	Type of product	Trade practices equal in all participating Member States	The number of Member States where products are marked in weight or in volume	
			Weight	Volume
34.	Sewing thread consisting of natural fibres (animal, vegetable and mineral), chemical fibres and mixtures thereof	-	9	1
35.	Cat litter	-	17	18
36.	Firewood	-	9	10
37.	Compost, potting soil or similar products	-	5	16
38.	Gas (propane, butane, oxygen)	-	16	4

Annex III Illustration of a practical way to assess whether a product is a liquid

In order to standardise the methods of determining whether a product is a liquid in accordance with the definition of a 'liquid product' given in section 4.1.2, this Annex provides appropriate equipment and conditions.

1. Temperature of product: pouring at 20 °C.
2. Quantity of product: 500 g¹.
3. Container: a glass beaker with capacity of 1 L or less²
4. Weigh empty beaker
5. Weigh 500 g of product into beaker
6. Weigh empty 2.5 mm sieve, (see OIML R 87, page 24, which refers to ISO 3310.1).
7. Pouring angle³ of the beaker: 135°, pour into sieve.
8. After 1 minute, if more than 1.5 % product is left in the glass beaker, consider the product is not a liquid.
9. Weigh product retained by sieve, if more than TNE, consider the product is not a liquid.

This pragmatic approach has been developed within WELMEC WG 6: Prepackages.

1. Quantity shall be sufficient to get good appreciation of pouring time.
2. Shall be able to contain 500 g of the product.
3. To assist the product falling from the container.