LP ITALIANA SPA

Via C. Reale, 15/4 - 20157 Milano - ITALY
Tel. +39 02 3933061
Fax +39 02 39313484
www.lpitaliana.com

Capitale Sociale € 309.600,00
R.E.A. MI 882798
Reg. Imp. MI C.F. e P.I. 01794050151
info@lpitaliana.com

TECHNICAL DATA SHEET

WATER SAMPLING BOTTLES

Dedicated to optimise the sampling of water or food for microbiology analyses, LP bottles are designed and manufactured to assure functionality, safety and user-friendliness.

LP Sampling Bottles come in four sizes: 125 ml, 250 ml, 500 ml 1.000 ml.

Key features, common for all models:

- Manufactured with virgin raw material, in conformity of the environmental norms: PETG – PP - HDPE
- Strong and virtually unbreakable.
- Lightweight, well balanced and easy to handle. Its square cross section and rounded edges assure the best transport and storage optimization, while minimizing their packaging volume. All types are available in single package, too.
- Two types of opening : "narrow neck" - "wide neck"
- The volume of the inserted liquid can be easily controlled by means of the clear moulded graduation (see table); accuracy ± 2%.
- Closure: all bottles are closed by one leakproof screw cap with a special inert inner gasket and with a safety seal.
- Caps: all made in HDPE
- All closures are designed with vertical ribs for easy use and openness, even when wearing gloves
- Traceability : The product label on each box includes the lot number and expiration date. In addition, each bottle bears a pre-pasted label that allows the recording of the main sample identification data :

  . - Batch number,

  . - Expiry date

  . - A unique number, in clear and in form of bar code.

  All these allow full traceability of each individual sample.
- Sterilization: based on ISO 11137 - SAL 10-6 performed by means of ionizing radiation.
- Shelf life: see product tables.
- The whole manufacturing process, packaging included, is checked according applicable norms and LP's proprietary quality criteria
- Thiosulfate content, where not otherwise specified: 20 mg / l

LP ITALIANA SPA

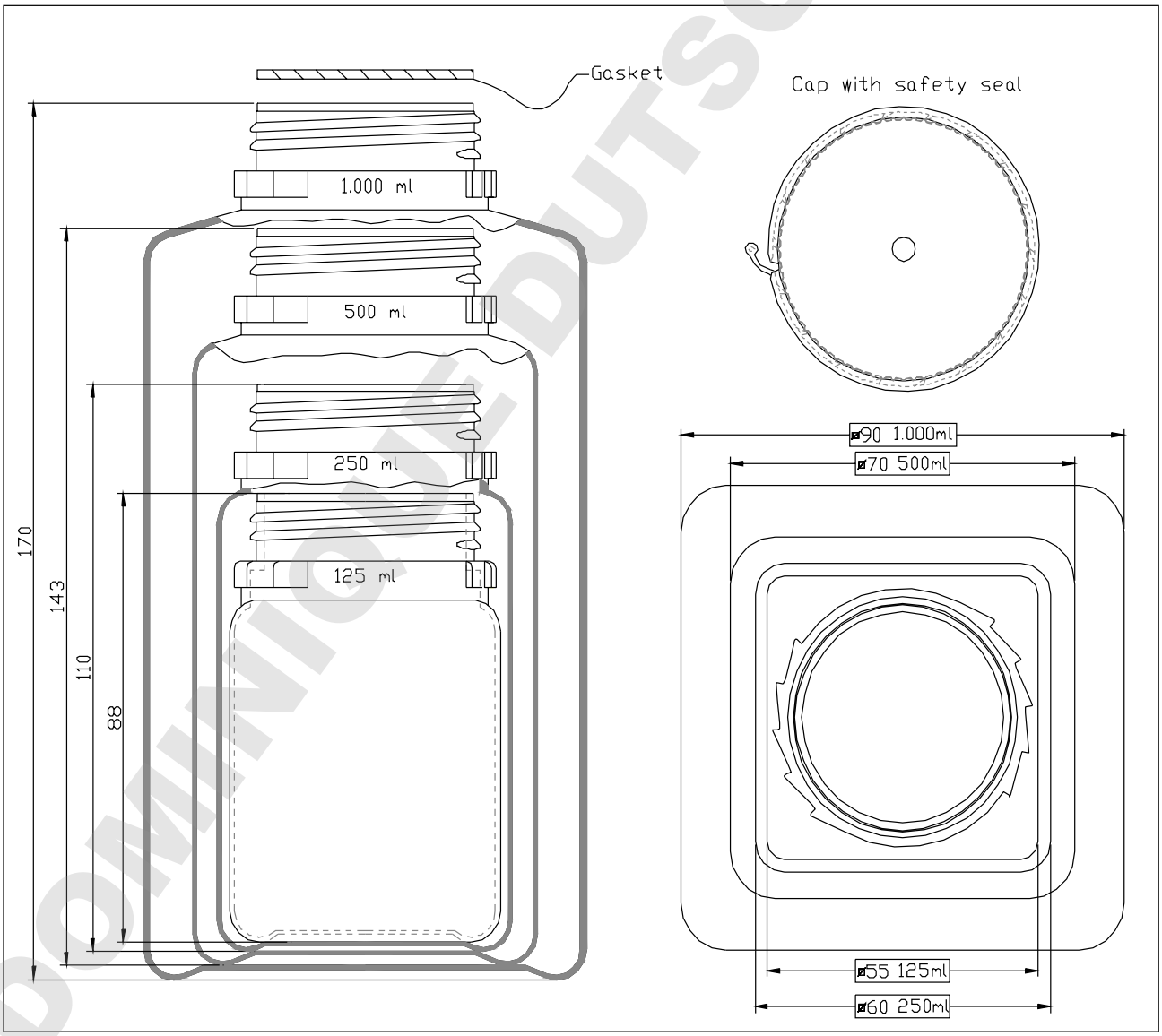
WIDE NECK BOTTLES FEATURES

produced in: PETG – PP – amber PP

Models with 50 mm nominal opening, facilitate the filling, minimize the risk of contamination during sampling (in accordance with the recommendations of the ISO 19458:2006 - sampling techniques):

Common characteristic:

Nominal Capacity (ml)		**125**	**250**	**500**	**1.000**
Brim Capacity (ml)		205	330	590	1.150
Graduation (ml)		25 – 125 (150)	50 - 250	100 - 500	200 - 1.000
Bottle Square (mm)		55 x 55	60 x 60	70 x 70	90 x 90
Bottle Height w/o cap (mm)		88	110	143	170
Bottle Height with cap (mm)		93	115	145	175
Cap Diameter (mm)		50			
Shelf life (months)	With Na Thiosulfate	24			
	w/o Na Thiosulfate	60			
Case quantity		350	216	120	72



LP ITALIANA SPA

Square bottles in virgin PETG Glass-like clarity for complete inspection during filling and pouring.

Code	Capacity (ml)	Single pack	Thiosulfate
292155[1]	**250**	no	yes
292158	**250**	no	yes
292258	**250**	no	no
292358	**250**	yes	yes
292458	**250**	yes	no
295155[1]	**500**	no	yes
295158	**500**	no	yes
295198[2]	**500**	no	yes
295258	**500**	no	no
295298[2]	**500**	no	no
295358	**500**	yes	yes
295458	**500**	yes	no
291158	**1.000**	no	yes
291258	**1.000**	no	no
291358	**1.000**	yes	yes
291458	**1.000**	yes	no

[1]Thiosulphate content : 100 mg / l ; [2]Resistant up to 100°C

Transparency: _____ glass like

Cap colour: _____natural white

Norms:

.- CE marking: __ N/A

.- food contact: _ raw material complies with EC regulations 1935/2004 and 10/2011

Fields of application:

.- industry

.- microbiology

.- environmental sampling

Square bottles in natural, virgin PP

Code	Capacity (ml)	Single pack	Thiosulfate
299148	**125**	no	yes
299248	**125**	no	no
299348	**125**	yes	yes
299448	**125**	yes	no
292148	**250**	no	yes
292248	**250**	no	no
292348	**250**	yes	yes
292448	**250**	yes	no
295148	**500**	no	yes
295248	**500**	no	no
295348	**500**	yes	yes
295448	**500**	yes	no
291148	**1.000**	no	yes
291248	**1.000**	no	no
291348	**1.000**	yes	yes
291448	**1.000**	yes	no

Transparency: _____ translucent

Cap colour: _____ natural white

Norms:

.- CE marking: __ N/A

.- food contact: _ raw material complies with CE regulation 1935/2004

Fields of application:

.- industry

.- microbiology

.- environmental sampling

Square bottles in amber virgin PP To be used in those in cases, for example with drinking water, where it is appropriate to protect from light the potentially photosensitive elements eventually contained in the sample.

Code	Capacity (ml)	Single pack	Thiosulfate
292648	**250**	no	yes
292748	**250**	no	no
292848	**250**	yes	yes
292948	**250**	yes	no
295648	**500**	no	yes
295748	**500**	no	no
295848	**500**	yes	yes
295948	**500**	yes	no
291648	**1.000**	no	yes
291748	**1.000**	no	no
291848	**1.000**	yes	yes
291948	**1.000**	yes	no

Transparency: _____no

Cap colour: _____natural white

Norms:

.- CE marking: __N/A

.- food contact: _N/A

Fields of application:

.- industry

.- microbiology

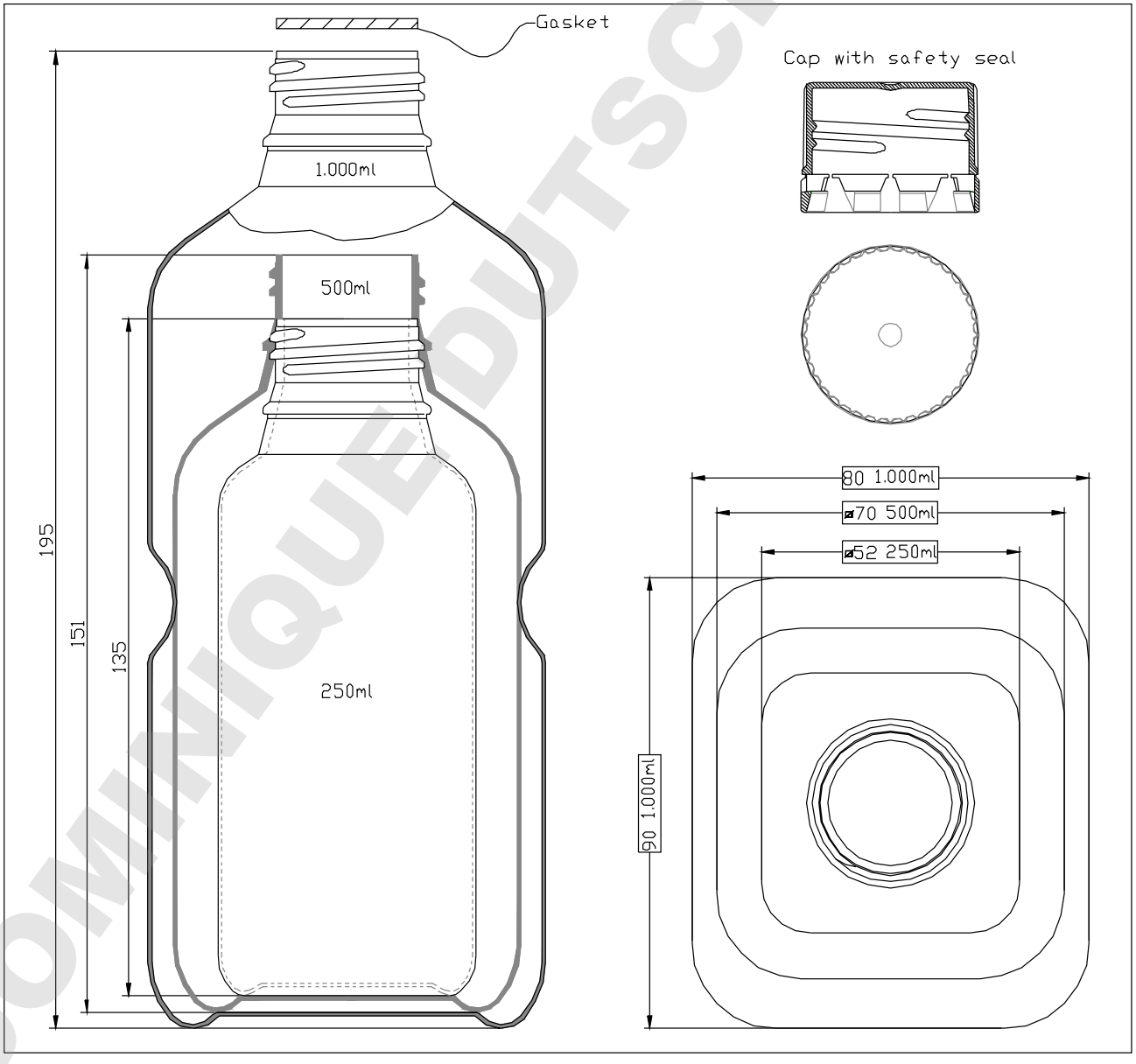
.- environmental sampling

LP ITALIANA SPA

NARROW NECK BOTTLES - in natural, virgin HDPE.

The nominal diameter of the neck of 31 mm, facilitate both pouring precision and opening.
Body colour: matt, semi-translucent.
Suitable for water sampling, they are mainly used in food industry.

Nominal Capacity (ml)		**250**	**500**	**1.000**
Brim Capacity (ml)		290	550	1.090
Graduation - every 50ml - (ml)		50 - 250	100 - 500	100 - 1.000
Body Transversal section (mm)		52 x 52	70 x 70	80 x 90
Bottle Height w/o cap (mm)		135	151	195
Bottle Height with cap (mm)		138	154	198
Cap Diameter (mm)		34		
Shelf life (months)	With Na Thiosulfate	24		
	w/o Na Thiosulfate	60		
Case quantity		231	120	72



LP ITALIANA SPA

NARROW NECK BOTTLES technical data

Code	Capacity (ml)	Single pack	Thiosulfate	Cap color
292168	**250**	No	yes	red
292268	**250**	No	no	blue
295168	**500**	No	yes	red
295268	**500**	No	no	blue
295768	**500**	No	no	blue
291168	**1.000**	No	yes	red
291268	**1.000**	No	no	blue
291768	**1.000**	No	no	blue
292368	**250**	Yes	yes	red
292468	**250**	Yes	no	blue
295368	**500**	Yes	yes	red
295468	**500**	Yes	no	blue
291368	**1.000**	Yes	yes	red
291468	**1.000**	Yes	no	blue

Transparency:
_____translucent

Norms:

.- CE marking: __ N/A

.- food contact: __ raw material complies with CE regulation 1935/2004

Fields of application:
.- industry
.- microbiology
.- environmental sampling

SODIUM THIOSULFATE BUFFERING

- Chlorides: with chlorinated water samples, buffering of free or residual chlorine is suggested, to inhibit its bactericide action during transportation and storing. All LP bottles are available pre-dosed with Sodium Thiosulfate (see "Suggestions") in conformity with:
  - ISO 19458:2006 (same as French Standard NFT 90-40):__20 mg/l or
  - International Standard ISO 5667-3:_____80 mg/l
  (Bottles filled to nominal capacity)
  In case of highly chlorinated water, by customer request, bottles with higher quantity of Na Thiosulfate are available.
  Note: in these cases the standard buffer amount is 100 mg/l, which can be increased up to 120 mg/l (typically used for swimming pool water sampling) with no influence on sample's quality (see "Suggestions"). Sodium Thiosulfate has no influence on the sample, that is why it is possible to use bottles containing Sodium Thiosulfate with non chlorinated samples.
- Sterility and individual wrapping: LP Water Sampling Bottles, with and without Na Thiosulfate, are all irradiated to a SAL (sterility assurance level) of 10^{-6}. The sterilization is guaranteed until seal is broken and the cap is opened (see table for shelf life). For those applications where it is important to avoid any possible contamination induced by the bottle itself (i.e. sampling by immersion), sterility is necessary for the external surface of the bottle as well as the internal one. For this requirement, all LP Water Sampling Bottles can be supplied individually wrapped (flow pack).
- Guarantee: screw caps have a tamper evident safety seal. If the cap seal is unbroken closure and inner sterility are guaranteed.

SUGGESTIONS FOR THE BEST USE

- Microbiological analysis of water samples must always be performed within the shortest possible time after sampling. If the sample has aged too long, many factors can influence its bacterial contents, all of them related to the quality of the water: presence of toxic or nutritive substances for bacterial flora, saltiness, pH and so on.
  As a general guideline, LP ITALIANA suggests to transport and store samples at a temperature of (+4 to +10)°C and to analyse them within 24 hours.
- 2) Buffering ratio
  As a bactericide, sporicide, fungicide and virocide, a sodium salt (hypochlorite NaClO and/or chlorite $NaClO_2$) is usually dissolved in water or, more frequently, one mixture of the two. It is not possible to know neither the composition of the mixture, nor the amount of each dissolved salt, therefore it is not possible to supply any indication of how much free chlorine is to be buffered by a predetermined amount of sodium thiosulfate (Na2S2O3).
  Furthermore, depending on inactivation dynamics, it is hard to predict which amount of Sodium Thiosulfate is required to inactivate even a known amount of free residual chlorine.
  We suggest considering the following indications:

  Buffering ratio between thiosulfate and hypoclorite → 1 Mole: 1 Mole
  Buffering ratio between thiosulfate and Chlorite → 4 Moles: 1 Mole

In order to know the actual ratio in weight, such relationships must be related to the respective molecular weights, but quantitative indications are not set here because they could be not pertinent or misleading to each single case. We limit ourselves only to give evidence that in one limit case (all chlorite) the amount of Thiosulfate required is approximately quadruple than the one required for the opposite case (“all hypochlorite”).
We suggest considering that 18 mg Sodium Thiosulfate will inactivate at least 2 mg/l and up to 5 mg/l of free chlorine residual, which is sufficient for the majority of samples.

DISPOSAL

All components of LP bottles (bottles, caps and gaskets) are manufactured using virgin raw materials that are completely recyclable and environment friendly; they can be disposed:

- Emptied and cleaned are fully recyclable; or
- Emptied, burned with energy recovery; or
- By incineration, at an appropriate temperature and with an adequate air insufflations. They give residuals of H2O and CO2, only; or
- Delivered to a controlled landfill, in accordance with local laws on waste disposal.