

## PerkinElmer Scintillation Cocktails & Vials



For every liquid scintillation  
counting application

## PerkinElmer — Total Solutions for Liquid Scintillation Counting Applications

PerkinElmer offers complete solutions for all your liquid scintillation counting application needs. We provide high-quality NEN® Radiochemicals, accurate and dependable lab instrumentation, and other essential chemicals and supplies your lab uses every day. Plus, you can count on us for a wide range of customized solutions and services.

With PerkinElmer as your partner, you will gain access to the latest research products and technologies as well as expert applications support. Our worldwide distribution network will ensure that the products you order will reach you reliably and on time. You just can't find a better source of products and services to support your research.



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## Safer LSC Cocktails

Occupational safety in laboratories is of unquestioned importance. Traditional scintillation cocktail formulations contain flammable, toxic solvents that permeate through polyethylene and represent a significant hazard to laboratory workers, create disposal problems that place strains on the environment, and often add hidden lab costs. PerkinElmer has addressed this problem by offering several lines of safer LSC cocktails.



### Ultima Gold Family

Beginning in the early 1980's, user and environmental safety concerns led to the introduction of cocktails based on high flash point solvents. Research conducted by Packard BioSciences Corp., later acquired by PerkinElmer, led to the development of the Ultima Gold™ family, high performance cocktails with the following properties:

- Very high flash point to simplify transportation and eliminate special storage requirements.
- Very low vapor pressure, nonvolatile.
- Low toxicity.
- Biodegradable.
- "Harmless chemicals" classification; nonflammable.
- High counting efficiency.
- High quench resistance.

### Ultima Gold



Ultima Gold is a safer liquid scintillation cocktail for a wide range of aqueous and non-aqueous samples. This multipurpose LSC cocktail has a high counting efficiency and provides superior detection efficiency for samples that exhibit severe quench in conventional cocktails.

### Ultima Gold XR



Ultima Gold XR is a safer liquid scintillation cocktail with a very high sample load capacity. Choose it to count large sample volumes, or when using miniature vials to increase throughput, reduce cost per sample or minimize radioactive waste. Ultima Gold XR is compatible with alkaline samples.

## Ultima Gold LLT



Determine low levels of  $^3\text{H}$  in a wide range of water samples without distillation using Ultima Gold LLT. It accepts up to 54% tap water, river water, rain water, and even sea water, with  $^3\text{H}$  counting efficiencies of approximately 30% and with very low background levels. When used with PerkinElmer's Tri-Carb® Liquid Scintillation Analyzers or the QUANTULUS® Ultra Low Level Liquid Scintillation Spectrometer, minimum detectable activities are less than 1.1 Bq/L (500 minute count time).

## Ultima Gold MV

Ultima Gold MV is specifically formulated for the rapid uptake of aqueous and non-aqueous samples. It is recommended for counting wet or damp glass fiber filters from cell harvesters. It is also ideal for counting small volume samples in miniature vials and micro-tubes because of its reduced viscosity compared to other high flash point cocktails.

## Ultima Gold AB

Specifically designed for alpha/beta discrimination in liquid scintillation counting, Ultima Gold AB provides the slow pulse decay characteristics necessary for effective alpha/beta discrimination. Its excellent sample holding capacity makes Ultima Gold AB ideal for a variety of both aqueous and acidic sample types.

## Ultima Gold F

Ultima Gold F is a high efficiency cocktail for counting dry filter supports, as well as non-aqueous (organic) samples. For alpha/beta LSC counting, Ultima Gold F is an ideal diluent for Ultima Gold AB, increasing energy pulse-shape resolution for small volume samples.

### Ordering Information

Product	Cat. No.	Size
Ultima Gold	6013323	500 mL*
	6013327	4 x 2.5 L
	6013329	2 x 5 L
Ultima Gold AB	6013303	500 mL*
	6013301	1 x 1 L
	6013309	2 x 5 L
Ultima Gold F	6013173	500 mL*
	6013179	2 x 5 L
Ultima Gold LLT	6013373	500 mL*
	6013371	1 x 1 L
	6013377	4 x 2.5 L
Ultima Gold MV	6013153	500 mL*
	6013159	2 x 5 L
Ultima Gold XR	6013113	500 mL*
	6013117	4 x 2.5 L
	6013119	2 x 5 L

\*Indicates sample sizes which can be requested through your sales representative. Please visit [www.perkinelmer.com/cocktails](http://www.perkinelmer.com/cocktails) for more details.

## OptiPhase HiSafe Family

A major technological advance in safer LSC cocktails, our OptiPhase HiSafe family of safer LSC cocktails uses the solvent di-isopropylnaphthalene (DIN) to achieve improved safety without decreasing performance.

### OptiPhase HiSafe 2

OptiPhase HiSafe 2 is a general-purpose liquid scintillation cocktail. It combines very high counting efficiency with moderate to high sample holding capacity for a wide range of aqueous and non-aqueous solutes.

### OptiPhase HiSafe 3

OptiPhase HiSafe 3 is a liquid scintillator that handles a broad range of solutes. Used for a variety of scintillation applications, it combines good counting efficiency with a very high level of sample acceptance, particularly for high ionic strength solutes.

### OptiPhase TriSafe

OptiPhase TriSafe has a special formulation that results in high solute uptake and low background. It is the ideal solution when counting over extended periods is required, such as analysis of radionuclides in ground waters (e.g. tritium and higher energy emitters).

### OptiPhase SuperMix

OptiPhase SuperMix has been specially formulated for use with microplates. It mixes easily with a wide variety of aqueous solutes and has a very high uptake capacity, minimizing cocktail use and reducing disposal problems.

### Betaplate Scint

This is a HiSafe cocktail for samples harvested or spotted onto filter membranes. High counting efficiency may eliminate sample pre-treatment often necessary with conventional cocktails.

## Ordering Information

Product	Cat. No.	Size
Betaplate Scint	1205-440	1 x 5 L
OptiPhase HiSafe 2	1200-436	1 x 5 L
OptiPhase HiSafe 3	1200-437	1 x 5 L
OptiPhase SuperMix	1200-439	1 x 5 L
OptiPhase TriSafe	1200-440	1 x 5 L

## Opti-Fluor Family

### Opti-Fluor



Our Opti-Fluor® cocktails are universal, safer liquid scintillation cocktails designed for use with polyethylene vials. Based on the high flash point solvent LAB (linear alkyl benzene), Opti-Fluor does not show any diffusion through the walls of polyethylene vials (observed with many LSC cocktails containing toluene, xylene or pseudocumene).

### Opti-Fluor O

Opti-Fluor O is used for counting organic (non-aqueous) samples. It will accommodate many organic solvents, forming clear liquid solutions yielding good counting efficiencies. Opti-Fluor O can replace classical toluene, xylene or pseudocumene-based LSC cocktails for organic samples. Opti-Fluor O is ideally suited for counting radon in water when a safer cocktail is preferred.



Ordering Information

Product	Cat. No.	Size
Opti-Fluor	6013193	500 mL*
	6013199	2 x 5 L
Opti-Fluor O	6013333	500 mL*
	6013339	2 x 5 L

\*Indicates sample sizes which can be requested through your sales representative. Please visit [www.perkinelmer.com/cocktails](http://www.perkinelmer.com/cocktails) for more details.

Ordering Information

Product	Cat. No.	Size
Emulsifier-Safe	6013389	2 x 5 L
Formula-989	6NE9899	2 x 5 L
High Efficiency Mineral Oil Scintillator	6NE9571	1 x 1 L

Classical LSC Cocktails

Other Safer LSC Cocktails

Emulsifier-Safe

Emulsifier-Safe™ is a LAB-based cocktail that is economically priced for aqueous and organic samples. Aqueous samples and many buffer solutions are accepted in a single liquid phase up to a 10 to 15% sample load.

Formula-989

Formula-989® is a high flash point, nonflammable cocktail based on linear alkyl benzene (LAB) and is designed for benchtop use. Formula-989 can accept a variety of aqueous samples up to 20% to 30%, by volume, as stable homogeneous mixtures.

High Efficiency Mineral Oil Scintillator

High Efficiency Mineral Oil Scintillator is the cocktail of choice for the detection of radon in water and soil samples.



PerkinElmer also offers classical liquid scintillation cocktail formulations that are optimized for the highest counting efficiency and maximum sample holding capacity. Our prepared cocktails are easy-to-use, save preparation time and minimize laboratory errors. Our carefully controlled blending and quality assurance procedures provide high performance, batch homogeneity and lot-to-lot uniformity.

Emulsifying Cocktails

Pico-Fluor Family

The Pico-Fluor™ family is a range of pseudocumene-based liquid scintillation counting cocktails.

Pico-Fluor 15

Pico-Fluor 15 is specifically formulated to provide accurate and reproducible high efficiency counting of aqueous samples. It will accept up to 2.0 mL of a wide variety of aqueous samples in 10 mL of cocktail. The continuous single liquid phase, formed from zero to the maximum acceptable sample load, avoids unexpected two-phase separation.

Pico-Fluor 40

Pico-Fluor 40 is a universal cocktail for use with both conventional 20 mL size vials and miniature size vials. It has a large sample holding capacity and high quench resistance and is compatible with tissue solubilizers.

Pico-Fluor MI

Pico-Fluor MI has been specially developed to work with biological samples such as milk, serum, plasma and urine. With these biological samples, Pico-Fluor MI forms stable mixtures for trouble-free counting. It will also accept a variety of aqueous samples in a single liquid continuous phase.

Filter-Count

Filter-Count™ is specifically formulated to dissolve cellulose nitrate membrane filters. It can also dissolve mixed cellulose esters and polyvinyl chloride (PVC) filters, although these sample types may require additional time. Filter-Count will dissolve wet or dry filters, reducing sample preparation procedures and improving counting results by enabling the use of external standard quench monitoring.

Hionic-Fluor



Hionic-Fluor™ is a cocktail for samples with high ionic strength and solubilized samples in strong alkaline media. It is recommended for counting concentrated sucrose or cesium chloride gradients. Hionic-Fluor exhibits extremely fast chemiluminescence decay with alkaline solutions or tissue solubilizers such as Soluene®-350, OptiSolv and SOLVABLE™.

Ordering Information		
Product	Cat. No.	Size
Filter-Count	6013149	2 x 5 L
Hionic-Fluor	6013313	500 mL*
	6013311	1 x 1 L
	6013319	2 x 5 L
Pico-Fluor 15	6013059	2 x 5 L
Pico-Fluor 40	6013349	2 x 5 L
Pico-Fluor MI	6013139	2 x 5 L
*Indicates sample sizes which can be requested through your sales representative. Please visit <a href="http://www.perkinelmer.com/cocktails">www.perkinelmer.com/cocktails</a> for more details.		

Organic Cocktails

Insta-Fluor Plus

Insta-Fluor™ Plus is a pseudocumene-based cocktail blended for optimal counting of organic samples and non-aqueous solutions. Simply combine the organic sample with Insta-Fluor Plus, shake to ensure homogeneity and count. Insta-Fluor Plus is ideally suited for use in two-phase extraction assays (e.g., CAT assays).

Ordering Information

Product	Cat. No.	Size
Insta-Fluor Plus	6013127	4 x 2.5 L

Sample Oxidizer Cocktails

These pseudocumene-based oxidizer cocktails are designed for use with PerkinElmer’s Sample Oxidizers to ensure superior performance and consistently reliable results.

Monophase S

Monophase® S is specifically formulated for counting pure water samples. It will accept up to 23% water, forming a clear fluid that yields outstanding counting efficiencies. It does not foam and does not form a gel, even at extreme mixing ratios (washing cycle). It is the cocktail of choice for obtaining the highest <sup>3</sup>H counting performance from Sample Oxidizers.

Carbo-Sorb E



Carbo-Sorb® E is a high capacity radioactive carbon dioxide absorber compatible with the counting cocktail Permafluor® E+.

Permafluor E+



Permafluor E+ is designed for counting <sup>14</sup>CO<sub>2</sub> samples that are trapped in Carbo-Sorb E.



Ordering Information

Product	Cat. No.	Size
Carbo-Sorb E	6013721	1 x 1 L
	6013729	4 x 2.5 L
Monophase S	6013109	2 x 5 L
Permafluor E+	6013181	1 x 1 L
	6013187	4 x 2.5 L

Other Classical LSC Cocktails

Atomlight

Atomlight® is a pseudocumene-based LSC cocktail that is ideal for counting high salt concentration aqueous samples. It holds the maximum amount of sample in the minimum amount of cocktail and is ideal for use with miniature vials.

Biofluor

Biofluor® is a pseudocumene-based LSC cocktail ideal for counting low to intermediate volumes of aqueous samples. It is a high efficiency monophasic cocktail that will accommodate up to 2 mL of aqueous sample in 15 mL cocktail.

Ordering Information

Product	Cat. No.	Size
Atomlight	6NE9689	2 x 5 L
Biofluor	6NE9619	2 x 5 L

Flow Detection Cocktails

Ultima-Flo Safer Flow Detection Cocktail Family

The Ultima-Flo™ family includes three novel, biodegradable cocktails for use in flow scintillation analyzers. The high loading capacity of the Ultima-Flo cocktails means less cocktail required, longer residence times and higher sensitivity.

Ultima-Flo M



Ultima-Flo M is formulated for multipurpose flow counting applications. This safer cocktail has a high sample acceptance for a wide range of dilute HPLC eluents, and methanol and acetonitrile gradients. Ultima-Flo M has low viscosity, unique rapid mixing properties and is resistant to chemiluminescence.

### Ultima-Flo AP



Ultima-Flo AP accepts gradients up to 2.0 M ammonium phosphate with fast and easy mixing. It demonstrates high counting efficiency and quench resistance for a wide variety of sample types.

### Ultima-Flo AF

Ultima-Flo AF is formulated to accept gradients up to 2.0 M ammonium formate at a 1:1 ratio with fast and easy mixing. This cocktail is appealing to those who use ammonium formate buffers to elute radiolabeled inositol phosphates from HPLC columns.

#### Ordering Information

Product	Cat. No.	Size
Ultima-Flo AF	6013589	2 x 5 L
Ultima-Flo AP	6013593	500 mL*
	6013599	2 x 5 L
	6013592	1 x 20 L
	6013598	1 x 30 L
Ultima-Flo M	6013573	500 mL*
	6013579	2 x 5 L
	6013572	20 L

\*Indicates sample sizes which can be requested through your sales representative. Please visit [www.perkinelmer.com/cocktails](http://www.perkinelmer.com/cocktails) for more details.

### Flo-Scint Classical Flow Cocktail Family

The classical Flo-Scint cocktails are pseudocumene-based flow cocktails that have gained an excellent reputation counting gradients, especially those with methanol and acetonitrile. They are resistant to chemiluminescence and are non-gelling.

### Flo-Scint II

Flo-Scint II can be used with polar solvents and dilute buffers affording good sample loading capacity and low viscosity.

### Flo-Scint III

Flo-Scint III is designed to work with methanol and acetonitrile gradients as well as moderately buffered solutions, including phosphates. It has good sample loading capacity, low viscosity and high counting efficiency.

#### Ordering Information

Product	Cat. No.	Size
Flo-Scint II	6013529	2 x 5 L
Flo-Scint III	6013539	2 x 5 L
	6013532	1 x 20 L

The Ultima-Flo series can replace the complete family of Flo-Scint and similar cocktails. Ultima-Flo cocktails outperform the classical cocktails on mixing ratio (up to 1:1). They also provide the user with the safety features related to the high flash point solvent system.

## Solid Scintillators for Microplate Applications

### MicroScint LSC Cocktails

Specifically formulated for use with PerkinElmer's TopCount® Microplate Scintillation and Luminescence Counter, MicroScint™ cocktails mix easily with samples for rapid uptake of aqueous and non-aqueous samples in microplates.

These cocktails provide you with a choice of optimal characteristics, including excellent counting efficiency, high sample capacity, quench resistance and polystyrene compatibility.

### MicroScint-20



MicroScint-20 cocktail accepts dilute aqueous samples at up to 20% loading (up to 25  $\mu$ L in 100  $\mu$ L MicroScint-20). With these sample types, MicroScint-20 cocktail mixes easily and completely upon agitation with an orbital shaker. It is the cocktail of choice for counting filters that have not been completely dried.

MicroScint-20 has an absolute, unquenched tritium efficiency of approximately 52% when measured in a 24-well white polystyrene OptiPlate™ microplate.

### MicroScint-40

MicroScint-40 cocktail accepts dilute aqueous samples at up to at least 40% loading (up to 70  $\mu$ L in 100  $\mu$ L MicroScint-40). It also mixes easily with most sample types but slightly longer agitation may be necessary when handling large sample volumes.

MicroScint-40 has an absolute, unquenched Tritium efficiency of approximately 40% when measured in a 24-well white polystyrene OptiPlate microplate.

### MicroScint-PS

MicroScint-PS cocktail, specifically formulated for polystyrene compatibility, is suitable for use with virtually any type of microplate and provides high counting stability with minimal change in count rate within a 24 hour period. It has almost identical sample handling capabilities to MicroScint-20 with respect to sample concentration and loading, but has a lower viscosity and is therefore easier and quicker to dispense.

MicroScint-PS cocktail has an absolute, unquenched tritium efficiency of approximately 48% when

measured in a 24-well white polystyrene OptiPlate microplate.

### MicroScint-E

MicroScint-E cocktail is used for assays that require *in situ* partitioning of the radionuclide-containing lipid phase from the aqueous phase in microplates. This cocktail extracts the lipids or other non-polar compounds from the aqueous phase in such assays, enabling direct counting of the samples after cocktail addition, since the label is preferentially taken up into the lipophilic cocktail.

MicroScint-E cocktail has an absolute, unquenched tritium efficiency of approximately 50% when measured in a 24-well white polystyrene OptiPlate microplate.

### MicroScint-O

MicroScint-O cocktail is used for counting non-polar organic samples such as hexane, heptane, ethyl acetate, etc., and for dried filters. It is particularly useful for organic samples produced from enzyme inhibition assays. MicroScint-O cocktail does not contain surfactants and is not miscible with water, so it is unsuitable for counting aqueous samples.

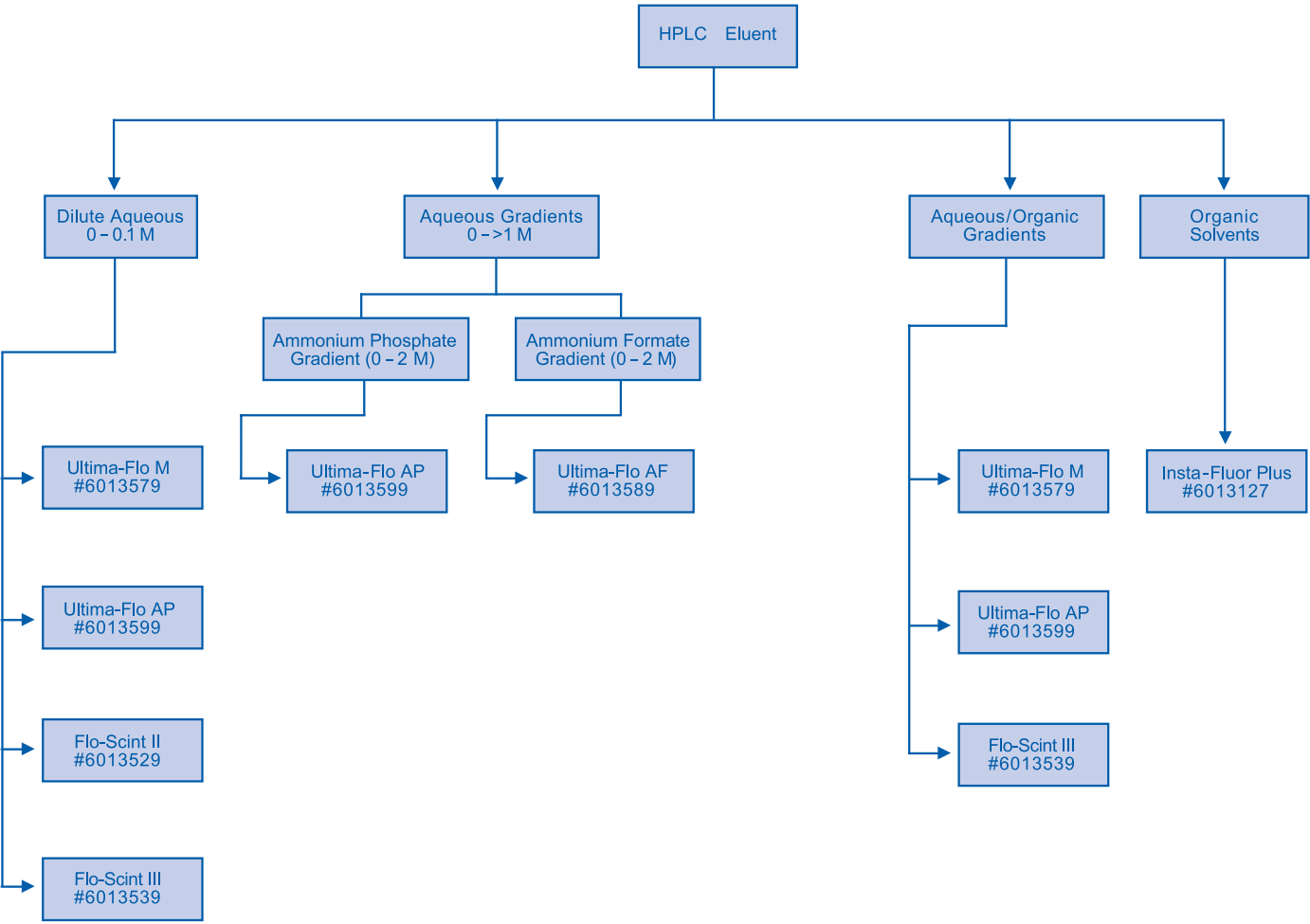
MicroScint-O cocktail has an absolute, unquenched tritium efficiency of approximately 58% when measured in a 24-well white polystyrene OptiPlate microplate.

#### Ordering Information

Product	Cat. No.	Size
MicroScint-20	6013621	1 x 1 L
MicroScint-40	6013641	1 x 1 L
MicroScint-E	6013661	1 x 1 L
MicroScint-O	6013611	1 x 1 L
MicroScint-PS	6013631	1 x 1 L

*Solid Scintillators con't on pg. 22*

Flow Cocktail Selection Guide



## Meltilex Solid Scintillators

Meltilex® melt-on solid scintillator, for use with filtermat-harvested or dot blotted samples, is an attractive alternative to traditional scintillation cocktails. Meltilex is especially well suited for use with plate counters. Simply place a sheet of Meltilex and a filtermat containing 96 samples together. Run these through a heat sealer or heat on a hot plate to melt. Sample preparation takes only one or two minutes per filtermat.

### Ordering Information

Product	Cat. No.	Size
Meltilex for Betaplate, 11 g.	1205-441	100/pack
Meltilex B for Betaplate, 14 g.	1205-442	75/pack
Meltilex B for Big Spot Betaplate	1204-442	50/pack
Meltilex for MicroBeta® Filters	1450-441	100/pack
Meltilex for MicroBeta Filters, 14 g.	1450-442	75/pack

## Tissue Solubilizers

### Safer Tissue Solubilizers

#### SOLVABLE

SOLVABLE is an aqueous-based solubilizer that has an excellent capacity for the solubilization of wet tissue, aqueous tissue homogenates, proteins, nucleotides and other substances into a solution. SOLVABLE can replace the classical solubilizer Soluene-350 for many applications, excluding plant material, increasing safety in the laboratory due to its aqueous nature.

## Hyamine Hydroxide 10-X

Hyamine Hydroxide™ 10-X is a quaternary ammonium hydroxide solution (1 M solution in methanol). It can be used to solubilize many biological tissues and as a  $^{14}\text{CO}_2$  trapping agent.

### Ordering Information

Product	Cat. No.	Size
Hyamine Hydroxide 10-X	6003005	500 mL
SOLVABLE	6NE9100	500 mL

### Classical Tissue Solubilizers



#### Soluene-350

Soluene-350 is a strong organic base formulated with toluene. It has an excellent capacity for the solubilization of wet tissue, aqueous tissue homogenates, proteins, nucleotides, plant material and other substances into a solution compatible with liquid scintillation cocktails.

#### OptiSolv

OptiSolv is a strong organic base formulated with toluene. It has an excellent capacity for the solubilization of biological and plant material into a solution compatible with liquid scintillation cocktails.

### Ordering Information

Product	Cat. No.	Size
OptiSolv	1200-435	500 mL
Soluene-350	6003038	500 mL



PerkinElmer offers high quality glass and plastic vials. The best vial to choose is dependent on the type and volume of sample to be counted and the cocktail that will be used.

### Glass Vials

Glass vials are manufactured from low potassium glass tubing. The tube diameter and the wall thickness are very closely controlled. The uniform wall thickness contributes to excellent counting reproducibility.

#### Key Features

- **Chemically inert**—suitable for use with aggressive reagents and tissue solubilizers.
- **Good visibility**—to check sample/cocktail appearance.
- **No solvent permeation**—when classical LSC cocktails are used.

### Plastic Vials



Plastic vials are injection (blow) molded to exacting specifications from virgin high-density (linear) polyethylene (HDPE). Caps are recessed to assure reliable loading and transferring in automatic sample changers without skipping or jamming. Since polyethylene vials are produced from petrochemicals, they contain no measurable background and are preferred for low activity counting applications.

#### Key Features

- **Lower background level** than glass vials.
- **Higher counting efficiency** than glass vials.
- **Combustible**—easier waste disposal.
- **No solvent permeation** with safer, high-flash point cocktails such as the Ultima Gold and OptiPhase Hi-Safe families.

### Miniature Vials

Our miniature vials are uniquely designed for safer, more confident sample preparation. Our plastic vials are manufactured from HDPE (high-density polyethylene) and are available with patented “anti-static” treatment. Unique closure designs are used to ensure fast, easy and comfortable sample preparation.



#### Pico Pro Vial - 4 mL

Our Pico Pro Vial™ is a 4 mL plastic scintillation vial uniquely suited for use in cell harvesting systems and general purpose LSC counting. A push-on/stay-on cap provides fast closure of vials.

For use in the trays of cell harvesting systems, the caps are connected in strings of six, with spacing corresponding to the 6 x 16 formats of the trays. After the glass fiber filters are completely dried, simply punch into Pico Pro Vials and add up to 4 mL scintillation cocktail such as Ultima Gold F. Lay a string of caps over a row of six vials, and press the caps onto the vials until a “click” is heard. The connections between the caps are automatically broken, and the remaining strings are folded upwards.

### Specifications

- Height with cap: 60.8 mm.
- Diameter: 14.2 mm.
- Diameter of opening: 11.2 mm.
- Diameter of cap: 14.0 mm.
- Wall thickness: 1.1 mm.
- Nominal volume: 4.0 mL.
- Maximum volume: 4.5 mL.
- Temperature resistance: up to 80 °C.

### Pico Prias Vial - 6 mL

Our polyethylene Pico Prias Vial™ yields high counting efficiencies with 3-6 mL of LSC cocktail.

### Specifications

- Height with cap: 57.5 mm.
- Diameter: 15.0 mm.
- Diameter opening: 12.3 mm.
- Diameter of cap: 16.2 mm.
- Wall thickness: 1.3 mm.
- Nominal volume: 6.0 mL.
- Maximum volume: 6.5 mL.
- Temperature resistance: up to 80 °C.



### Pico 'Hang-In' Vial - 6 mL

Our miniature size plastic 'hang-in' vials are for use in standard 20 mL liquid scintillation analyzers. The unique self-centering design allows a 20 mL LSC vial to be used as a carrier. This system makes it possible to use large and small vials (small vial contained in a large vial) intermixed in one rack. The Pico 'Hang-In' Vial™ features a large 12.3 mm neck opening.

### Specifications

- Height with cap: 57.5 mm.
- Diameter: 15.0 mm.
- Diameter of opening: 12.3 mm.
- Diameter of cap: 18.9 mm.

- Wall thickness: 1.3 mm.
- Nominal volume: 6.0 mL.
- Maximum volume: 6.5 mL.
- Temperature resistance: up to 80 °C.

### Pony Vial - 6 mL



Our Pony Vial™ is a miniature polyethylene vial with a unique (push-on/twist-off cap) closure system not available on any other screw cap designs.

- **Push-on cap provides rapid closure** — for routine analysis where many vials have to be handled, push-cap vials are real time savers.
- **Twist-off cap for safer reopening** — the Pony Vial is compatible with all small vial counters and PerkinElmer Varisette™ sample changers.

### Specifications

- Height with cap: 56.6 mm.
- Diameter: 16.0 mm.
- Diameter of opening: 12.5 mm.
- Diameter of cap: 15.9 mm.
- Wall thickness: 1.3 mm.
- Nominal volume: 5.5 mL.
- Maximum volume: 6.0 mL.
- Temperature resistance: up to 80 °C.

## Pony 'Hang-In' Vial - 6 mL

Our Pony 'Hang-In' Vial is a miniature polyethylene scintillation vial with all the features of the Pony Vial, but with a different cap that allows it to 'hang' into a standard 20 mL LSC vial as a carrier.

### Specifications

- Height with cap: 56.6 mm.
- Diameter: 16.0 mm.
- Diameter of opening: 12.5 mm.
- Diameter of cap: 19.0 mm.
- Wall thickness: 1.3 mm.
- Nominal volume: 5.5 mL.
- Maximum volume: 6.0 mL.
- Temperature resistance: up to 80 °C.

## Pico Glass Vial - 7 mL

Our Pico Glass Vial™ is a low background, borosilicate glass vial. High counting efficiencies compared to standard size glass vials are obtained with as little as 3 mL of LSC cocktail. These vials feature low background and are nonpermeable to aromatic hydrocarbons. They are not available in North and South America.



### Specifications

- Height with cap: 57.3 mm.
- Diameter: 16.7 mm.
- Diameter of opening: 8.3 mm.
- Diameter of cap: 15.3 mm.
- Wall thickness: 0.9 mm.
- Nominal volume: 7.0 mL.
- Maximum volume: 8.0 mL.
- Temperature resistance: >100 °C.

## Ordering Information

Product	Cat. No.	Size
Pico Pro Vial - 4 mL	6000252	2,000/case.
Pico Prias Vial - 6 mL	6000192	2,000/case. Economically packed. Caps packed separately.
	6000193	2,000/case. Same as above, with exclusive Anti-Static treatment.
Pico 'Hang-In' Vial - 6 mL	6000186	2,000/case. Economically packed. Caps packed separately.
Pony Vial - 6 mL	6000292	2,000/case. Packed in a Handy-Box. Caps packed separately.
	6000293	2,000/case. Same as above, with exclusive Anti-Static treatment.
Pony 'Hang-In' Vial - 6 mL	6000286	2,000/case. Packed in a Handy-Box. Caps packed separately.
Pico Glass Vial - 7 mL	6000167	1,000/case. Shrink-wrapped in 5 trays for 200 vials each with foil-lined, white urea screw caps packed separately.
	6000179	1,000/case. White urea screw caps with foil liner.

Mid-Sized Vials

Hinge Cap Vial - 8 mL

Our 8 mL capacity Hinge Cap Vial™, made from HDPE, is a revolution in sample preparation for liquid scintillation counting. Simply prepare your samples and close the cap; the integral hinge fits flush with the vial for snag-free counting in miniature vial cassettes.

Fast, Easy and Efficient Sample Preparation

- **33% more capacity than 6 mL miniature vials** — allows miniaturization from 20 mL size vials when used with high sample capacity cocktails such as Ultima Gold XR.
- **Enables reduced cocktail consumption**—reducing the amount of waste produced and waste disposal costs.
- **Pre-labeling of attached cap**—avoids potential sample mix-ups for GLP compliance.
- **Fits miniature vial cassettes.**

Specifications

- Height with cap: 59.0 mm.
- Diameter: 17.5 mm.
- Diameter of opening: 14.0 mm.
- Diameter of cap: 16.7 mm.
- Wall thickness: 1.3 mm.
- Nominal volume: 8.0 mL.
- Maximum volume: 9.0 mL.
- Temperature resistance: up to 80 °C.

Midi-Vial - 8 mL

Our Midi-Vial™ is an 8 mL HDPE vial, providing 33% more sample capacity than miniature vials. This allows miniaturization from 20 mL size vials when used in combination with high sample capacity cocktails such as Ultima Gold XR. It features the same unique push-on/twist-off closure system as Pony Vials.

Specifications

- Height with cap: 62.0 mm.
- Diameter: 17.5 mm.
- Diameter of opening: 14.0 mm.
- Diameter of cap: 17.4 mm.
- Wall thickness: 1.9 mm.
- Nominal volume: 8.0 mL.
- Maximum volume: 8.0 mL.
- Temperature resistance: up to 80 °C.

Maxi-Vial - 18 mL

The large opening of our Maxi-Vial™ promotes easy sample loading of filters and other sample types. It features very low “classical” solvent diffusion due to its thick 2 mm walls.

Specifications

- Height with cap: 61.0 mm.
- Diameter: 26.5 mm.
- Diameter of opening: 22.6 mm.
- Diameter of cap: 26.9 mm.
- Wall thickness: 2 mm.
- Nominal volume: 18.0 mL.
- Maximum volume: 20.0 mL.
- Temperature resistance: up to 80 °C.

Ordering Information		
Product	Cat. No.	Size
Hinge Cap Vial - 8 mL	6000480	2,000/case. Economically packed.
	6000488	500/case. Shrink-wrapped in 5 trays of 100 vials.
Midi-Vial - 8 mL	6000288	2,000/case. Economically packed. Caps packed separately.
	6000289	2,000/case. With Anti-Static treatment.
Maxi-Vial - 18 mL	6000201	1,000/case. Economically packed. Caps packed separately.

## Standard Vials

### Super Polyethylene Vial - 20 mL with Glass Vial Thread

#### Specifications

- Height with cap: 60.8 mm.
- Diameter: 27.0 mm.
- Diameter of opening: 17.5 mm.
- Diameter of cap: 24.9 mm.
- Wall thickness: 1 mm.
- Nominal volume: 20.0 mL.
- Maximum volume: 24.0 mL.
- Temperature resistance: up to 80 °C.



### Super Polyethylene Vial - 20 mL with Quick Closure

This Super Polyethylene Vial™ features a polyethylene quick closure screw cap with a smooth grip. The vial has excellent mechanical strength and seamless bottom and walls.

#### Specifications

- Height with cap: 60.8 mm.
- Diameter: 27.0 mm.
- Diameter of opening: 17.5 mm.
- Diameter of cap: 24.7 mm.
- Wall thickness: 1 mm.
- Nominal volume: 20.0 mL.
- Maximum volume: 24.0 mL.
- Temperature resistance: up to 80 °C.

### Low Diffusion Polyethylene Vial - 20 mL Anti-Static

Our Low Diffusion Polyethylene Vial carries a micron thin Teflon®-type coating on the inside surface, reducing the diffusion of classical type solvents by a factor of 10-20 times. The cap is lined with aluminum foil as a

barrier. This vial was developed for long-term low-level measurements as a cost effective alternative to very expensive Teflon counting vials. They are 100% anti-static and provide high counting efficiency and low background.

#### Specifications

- Height with cap: 60.8 mm.
- Diameter: 27.0 mm.
- Diameter of opening: 17.5 mm.
- Diameter of cap: 24.9 mm.
- Wall thickness: 1 mm.
- Nominal volume: 20.0 mL.
- Maximum volume: 24.0 mL.
- Temperature resistance: up to 80 °C.

### High Performance Glass Vial - 20 mL

Our High Performance Glass Vial™ is made from specially selected low potassium borosilicate glass and provides high UV transmission ( $\geq 90\%$ ).



The controlled low and stable background assures batch-to-batch homogeneity. They are supplied with a white cap with a good writing surface in dust-free tray packaging. **Available in North and South America only.**

#### Specifications

- Height with cap: 60.5 mm.
- Diameter: 27.3 mm.
- Diameter of opening: 16.2 mm.
- Diameter of cap: 24.9 mm.
- Wall thickness: 0.9 mm.
- Nominal volume: 20.0 mL.
- Maximum volume: 24.0 mL.
- Temperature resistance:  $>100$  °C.



## Econo Glass Vial - 20 mL



These economical vials are made from standard boro-silicate glass, specially selected for acceptable background. They provide excellent counting performance. **Availability varies by country.**

### Specifications

- Height with cap: 58.5 mm.
- Diameter: 27.3 mm.
- Diameter of opening: 16.2 mm.
- Diameter of cap: 24.9 mm.
- Wall thickness: 0.9 mm.
- Nominal volume: 20.0 mL.
- Maximum volume: 22.0 mL.
- Temperature resistance: up to 80 °C.

## Oximate Vial - 20 mL

Our Oximate Vial™ features a special cap design for use in PerkinElmer's Sample Oxidizer.

### Specifications

- Height with cap: 60.8 mm.
- Diameter: 27.3 mm.
- Diameter of opening: 16.2 mm.
- Diameter of cap: 24.9 mm.
- Wall thickness: 0.9 mm.
- Nominal volume: 20.0 mL.
- Maximum volume: 24.0 mL.
- Temperature resistance: >100 °C.

### Ordering Information

Product	Cat. No.	Size
Super Polyethylene Vial - 20 mL with Glass Vial Thread	6001085	500/case. Packed in partitioned trays of 100 vials each with caps on.
	6001087	1,000/case. Economically packed. Caps packed separately.
Super Polyethylene Vial - 20 mL with Quick Closure	6008117	1,000/case. Economically packed. Caps packed separately.
	6000375	500/case. Packed in partitioned trays of 100 vials. Caps packed separately.
	6001075	500/case. Packed in partitioned trays of 100 vials each with caps on.
	6008118	1,000/case. Anti-static version, economically packed. Caps packed separately.
Low Diffusion PE Vial - 20 mL Anti-Static	6000477	100/case. Shrink-wrapped in partitioned box with caps on.
High Performance Glass Vial - 20 mL	6001009	500/case. Packed in trays of 100 vials each with 22 mm neck, foil-lined urea screw caps on.
	6001050	500/case. With poly-cone lined urea screw caps.

**Ordering Information (continued)**

Product	Cat. No.	Size
Econo Glass Vial - 20 mL Not available in North and South America.	6000096	500/case. Shrink-wrapped in partitioned trays of 125 vials each with separate foil-lined urea screw caps.
	6000097	500/case. With poly screw caps.
	6000098	500/case. With poly-cone lined urea caps.
Econo Glass Vial - 20 mL For all other countries.	6000326	500/case. Shrink-wrapped in partitioned trays of 100 vials each with separate foil-lined urea screw caps.
	6000327	500/case. With poly screw caps.
	6000348	500/case. With poly-cone lined urea caps.
Oximate Vial - 20 mL	6001095	500/case. Packed in partitioned trays of 100 vials each with caps on.

**Teflon-Copper Vials**

Our Teflon-Copper vials give the best performance and are ideal particularly for low level  $^{14}\text{C}$  dating where benzene is used. They are optimized by masking to match the sample volume to give the best signal-to-noise ratio.

The Teflon-Copper vials can be used with PerkinElmer's QUANTULUS Ultra Low Level Liquid Scintillation Spectrometer using a specially designed counting tray.

**Ordering Information**

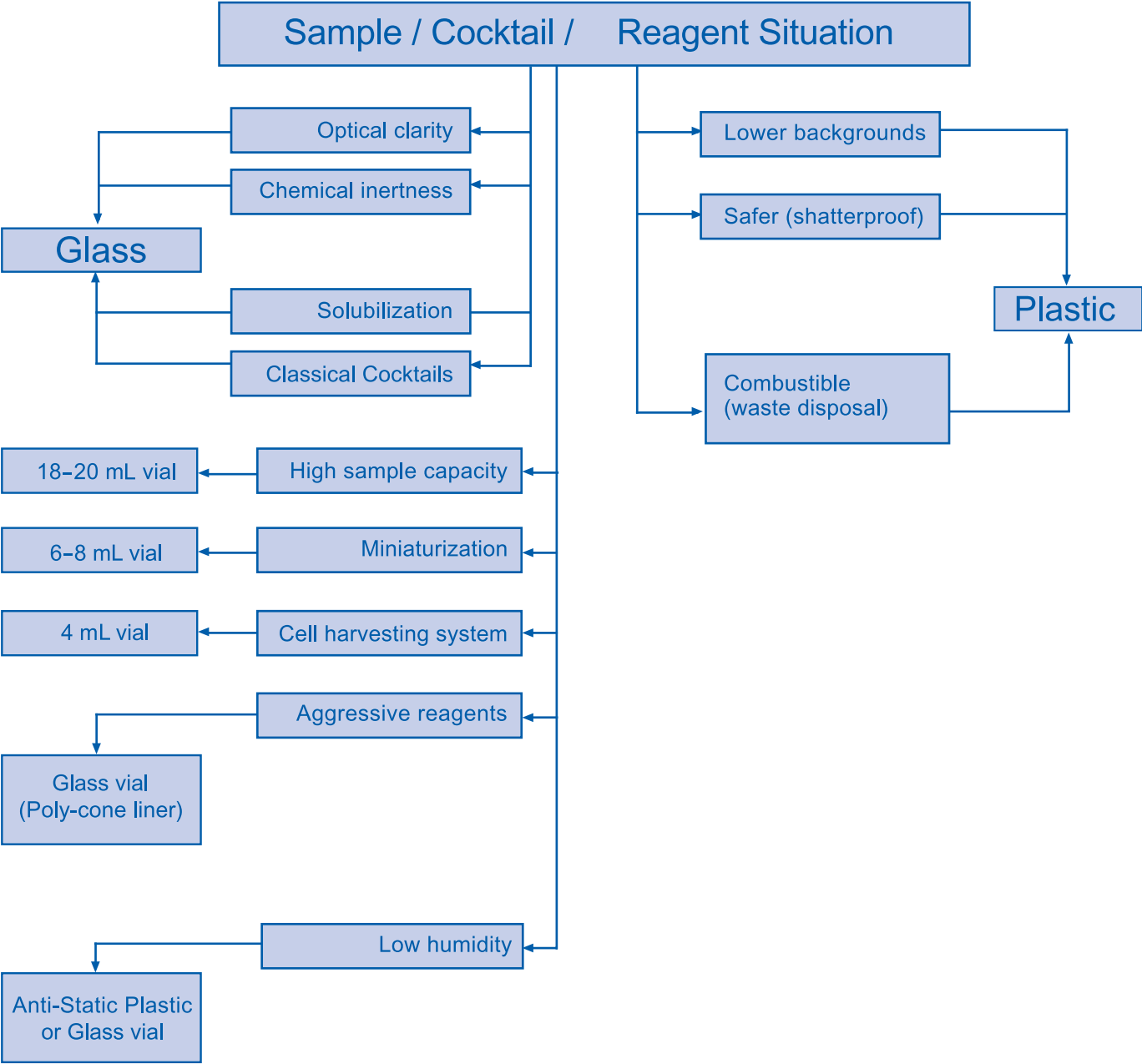
Product	Cat. No.	Size
Teflon-Copper Vials - 3 mL	1220-500	10/package
Teflon-Copper Vials - 7 mL	1220-501	10/package
Teflon-Copper Vials - 15 mL	1220-502	10/package
Teflon-Copper Vials - 20 mL	1220-503	10/package

**For your liquid scintillation counting applications, find total solutions from PerkinElmer**

For more information, call us or visit  
[www.perkinelmer.com/cocktails](http://www.perkinelmer.com/cocktails).

To order, call your local PerkinElmer office,  
found at [www.perkinelmer.com/lasoffices](http://www.perkinelmer.com/lasoffices).

LSC Vial Selection Guide



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