

## Pluronic® F-127

**Table 1.** Contents and storage information.

Product	Amount	Concentration	Storage	Stability
P3000MP	1 mL	20% (w/v) solution in dimethylsulfoxide (DMSO)	<ul style="list-style-type: none"> <li>• Room temperature</li> <li>• DO NOT FREEZE</li> </ul>	6 months
P6866	30 mL	0.2 µm–filtered 10% (w/v) solution in H <sub>2</sub> O		6 months
P6867	2 g solid	Not applicable		6 months

### Introduction

Pluronic® F-127 is a nonionic, surfactant polyol (molecular weight approximately 12,500 daltons) that has been found to facilitate the solubilization of water-insoluble dyes and other materials in physiological media.<sup>1</sup> Pluronic® F-127 has been used to help disperse acetoxymethyl (AM) esters of fluorescent ion indicators such as fura-2, indo-1, fluo-3, and SBFI; it appears to be required with SBFI-AM or PBFI-AM, and optional with other indicators. Pluronic® F-127 may also be useful for dispersing other lipophilic probes. Appropriate controls should be performed to make certain that Pluronic® F-127 is not altering the membrane properties of the cell. For the convenience of our customers, Invitrogen offers Pluronic® F-127 in three forms as shown in Table 1.

### Guidelines for Use

#### Handling Solid Pluronic® F-127 and Stock Solutions

Dissolve 2 g of Pluronic® F-127 (P6867) in 10 mL of anhydrous dimethylsulfoxide (DMSO) to give a 20% (w/v) stock solution. This may require heating at ~40°C for about 20 minutes. Store solution at room temperature. Do not refrigerate or freeze the solutions because Pluronic® F-127 may come out of solution. If the product does crystallize, it can be reheated until it goes back into solution. If precipitation is observed in purchased solutions of Pluronic® F-127 (P6866, P3000MP), the product may be resolubilized by heating at ~40°C and vortexing before use.

#### Using Pluronic® F-127

The experimental conditions for loading cells with AM esters varies with cell type due to differences both in probe uptake and in the intracellular esterase activity required for hydrolysis of the AM esters. Solutions of the AM esters in DMSO must be kept anhydrous since

the solvent will readily take up moisture, leading to loss of cell-loading efficacy. Pluronic® F-127 should be added only to working solutions. Typically, a small volume of the AM ester, dissolved at 1–5 mM in DMSO, is mixed with the 20% (w/v) Pluronic® F-127 stock solution in DMSO at a ratio of 1:1 immediately before use. The solution of AM ester and Pluronic® F-127 is then diluted into the cell-loading buffer to achieve a final AM ester concentration of between 1 µM and 10 µM and the cells are incubated for between 10 minutes and 1 hour. The final concentration of Pluronic® F-127 is normally kept at or below 0.1%. More weakly fluorescent indicators, such as the AM esters of SBFI, PBFI, quin-2, and Fura Red may require more concentrated loading solutions and correspondingly greater amounts of Pluronic® F-127.<sup>2</sup> In general it is desirable to use the minimum amount of AM ester needed to achieve adequate fluorescence signal to noise levels. Loading may be done at any temperature that is tolerable for the cells. Note that the incubation temperature generally affects the extent of intracellular dye compartmentalization.<sup>3,4</sup> After labeling, the cells are washed with **fresh medium** before beginning the experiment.

## References

1. J Membrane Biol 19, 1 (1974); 2. J Biol Chem 265, 19543 (1990); 3. Methods Enzymol 302, 341 (1999); 4. Methods Enzymol 307, 441 (1999).

## Product List Current prices may be obtained from our website or from our Customer Service Department.

Cat. no.	Product Name	Unit Size
P6867	Pluronic® F-127 *low UV absorbance*	2 g
P3000MP	Pluronic® F-127 *20% solution in DMSO*	1 mL
P6866	Pluronic® F-127 *10% solution in water* *0.2 µm filtered*	30 mL
P10020	PowerLoad™ 100X concentrate	5 mL
P36400	Probenecid, water soluble	10 × 77 mg

## Contact Information

### Molecular Probes, Inc.

29851 Willow Creek Road  
Eugene, OR 97402  
Phone: (541) 465-8300  
Fax: (541) 335-0504

### Customer Service:

6:00 am to 4:30 pm (Pacific Time)  
Phone: (541) 335-0338  
Fax: (541) 335-0305  
probesorder@invitrogen.com

### Toll-Free Ordering for USA:

Order Phone: (800) 438-2209  
Order Fax: (800) 438-0228

### Technical Service:

8:00 am to 4:00 pm (Pacific Time)  
Phone: (541) 335-0353  
Toll-Free (800) 438-2209  
Fax: (541) 335-0238  
probestech@invitrogen.com

### Invitrogen European Headquarters

Invitrogen, Ltd.  
3 Fountain Drive  
Inchinnan Business Park  
Paisley PA4 9RF, UK  
Phone: +44 (0) 141 814 6100  
Fax: +44 (0) 141 814 6260  
Email: euroinfo@invitrogen.com  
Technical Services: eurotech@invitrogen.com

Further information on Molecular Probes products, including product bibliographies, is available from your local distributor or directly from Molecular Probes. Customers in Europe, Africa and the Middle East should contact our office in Paisley, United Kingdom. All others should contact our Technical Service Department in Eugene, Oregon.

Molecular Probes products are high-quality reagents and materials intended for research purposes only. These products must be used by, or directly under the supervision of, a technically qualified individual experienced in handling potentially hazardous chemicals. Please read the Material Safety Data Sheet provided for each product; other regulatory considerations may apply.

### Limited Use Label License No. 223: Labeling and Detection Technology

The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes. The buyer may transfer information or materials made through the use of this product to a scientific collaborator, provided that such transfer is not for any Commercial Purpose, and that such collaborator agrees in writing (a) to not transfer such materials to any third party, and (b) to use such transferred materials and/or information solely for research and not for Commercial Purposes. Commercial Purposes means any activity by a party for consideration and may include, but is not limited to: (1) use of the product or its components in manufacturing; (2) use of the product or its components to provide a service, information, or data; (3) use of the product or its components for therapeutic, diagnostic or prophylactic purposes; or (4) resale of the product or its components, whether or not such product or its components are resold for use in research. Invitrogen Corporation will not assert a claim against the buyer of infringement of the above patents based upon the manufacture, use or sale of a therapeutic, clinical diagnostic, vaccine or prophylactic product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. If the purchaser is not willing to accept the limitations of this limited use statement, Invitrogen is willing to accept return of the product with a full refund. For information on purchasing a license to this product for purposes other than research, contact Molecular Probes, Inc., Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.

Several Molecular Probes products and product applications are covered by U.S. and foreign patents and patents pending. All names containing the designation ® are registered with the U.S. Patent and Trademark Office.

Copyright 2008, Molecular Probes, Inc. All rights reserved. This information is subject to change without notice.