

# Thermo Scientific Nalgene Dilution Bottles

Cat. No. 2500-0280 Narrow-Mouth, 2500-0380 Wide-Mouth

## Important information regarding your Nalgene® Dilution Bottle:

- “Polysulfone dilution bottles” or “plastic dilution bottles” are in accord with dilution bottle methods described in:
  1. APHA Standard Methods for the Examination of Dairy Products, 15th Ed. (in preparation), APHA, Washington, D.C., **Technical Committee Approval, September 2, 1983.**
  2. APHA, AWWA, WPCF, Standard Methods for the Examination of Water and Wastewater, 15th Ed., APHA, Washington, D.C., 1980, Section 903 (“Laboratory Apparatus”), p. 771, item #11 (Dilution Bottles and Tubes”).
  3. U.S. EPA Microbiological Methods for Monitoring the Environment - Water and Wastes, U.S. Government Printing Office, Washington, D.C., 1978, Part II, Section B 1.10 (“Laboratory Equipment, Techniques and Media”), p. 34
- Nalgene Dilution Bottles (polysulfone) have been tested and found to be non-toxic and non-stimulatory:
  1. As assessed by growth of *Enterobacter aerogenes*, according to procedure 5.3, “Water Suitability Test”, in U.S. EPA Microbiological Methods for Monitoring the Environment – Water and Wastes, U.S. Government Printing Office, Washington, D.C., 1978, Part IV, Section A 5.3, pp 202-203. Thermo Fisher Scientific, unpublished data, available on request.
  2. Per MEM elution method, 72-hour extracts, using L-929 mouse fibroblasts. Wilsnack, R.F., Biomaterials, Medical Devices and Artificial Organs, Vol. 4, #4, pp 235-261, (“Quantitative Cell Culture Biocompatibility Testing of Medical Devices and Correlation to Animal Tests”), 1976. Thermo Fisher Scientific, unpublished data, available on request.
- The polysulfone and polypropylene resins used to mold Nalgene Dilution Bottles and Closures meet the requirements of the Food Additives Amendment of the Federal Food, Drug and Cosmetic Act.

Nalgene Dilution Bottles are designed for preparing serial dilutions, as used in microbiological analyses of dairy products, other foods and beverages, water and wastewater, cosmetics and pharmaceuticals. The dimensions and configurations of these bottles are similar to those of standard 160 mL milk dilution bottles made of glass.

These dilution bottles are made of **polysulfone (PSF)**, a transparent plastic with a straw-colored cast.

**They are nontoxic, durable and autoclavable.** Unlike glass dilution bottles, they are lightweight and extremely resistant to chipping or breaking. **When used with their linerless screw closures of polypropylene (PP), the bottles are leakproof.**

These bottles are calibrated at ( $\pm$  1 mL) for 1/10 dilutions and 99 mL ( $\pm$ 1 mL) for 1/100 dilutions. They are easily marked with grease or wax pencil. A convenient marking area is provided.

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## Guidelines for Use

### Cleaning:

These bottles and closures can be washed in hot water and a mild, non-abrasive detergent. Do not use steel wool or scouring pads. Rinse thoroughly, including a final rinse with distilled or deionized water. Air dry. They can also be washed in labware washing machines. To prevent excessive abrasion, metal spindles should be covered with a soft material, such as plastic tubing. The bottles should be weighted down and held in place with accessory racks. **Do not use the detergent TWEEN with these bottles. Stress-cracking could result.**

### Autoclaving:

Clean thoroughly before autoclaving. Nalgene Dilution Bottles and Closures withstand repeated 20-minute autoclaving cycles at 121°C/15 psig.

**CAUTION:** Before autoclaving, completely loosen or remove closures to prevent collapse of bottles when cooling!

See the current Nalgene Labware Catalog for guidelines on other sterilization methods.

### Temperature and Chemical Resistance:

These PSF bottles withstand temperatures from -100°C to +165°C. The PP closures withstand temperatures from 0°C to +135°C.

In general, PSF has excellent resistance to detergents, bases and weak acids. It has good resistance to strong and concentrated acids, aliphatic alcohols, aliphatic hydrocarbons and strong oxidizing agents. It has more limited resistance to organic chemicals other than those mentioned above. In general, the PP closure has even better chemical resistance, except for oxidizing agents. For detailed chemical resistance data, see the current Nalgene Labware Catalog or for more information, contact Technical Support at the numbers listed below.

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