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› United Scientific BG1000-5 Borosilicate Glass Beakers: Instruction Manual

United Scientific BG1000-5

United Scientific BG1000-5 Borosilicate Glass Beakers: Instruction Manual

Model: BG1000-5

1. INTRODUCTION

This manual provides essential information for the safe and effective use of United Scientific BG1000-5 Borosilicate Laboratory Grade Glass Beakers. These Griffin style low form beakers are designed for general laboratory and educational applications, including mixing, heating, and measuring liquids. Each pack contains 12 beakers, each with a 5mL capacity.



Image 1: A single 5mL United Scientific borosilicate glass beaker, showing the brand logo and 5mL graduation.

2. PRODUCT FEATURES

- **Material:** Manufactured from low-expansion Borosilicate 3.3 glass, ensuring high resistance to thermal shock and chemical corrosion. This material complies with ASTM E438 Standard Specification for Glasses in Laboratory Apparatus.
- **Design:** Griffin style low form with a heavy and uniform wall thickness for durability. Features a pour spout for controlled liquid transfer

and a beaded rim for enhanced strength.

- **Graduations:** Dual scale graduations are provided for approximate volume measurement, adhering to ASTM-E960 standards. The 5mL beaker features graduations from 0mL to 0mL (as per ASTM standards for this size). Accuracy tolerance is approximately +/- 5%.
- **Autoclavable:** Suitable for sterilization in an autoclave.
- **Easy to Clean:** All United Scientific beakers are dishwasher safe.



Image 2: Close-up view of the beaker's beaded rim and pour spout, highlighting the design for durability and controlled pouring.

3. SETUP

1. **Unpacking:** Carefully remove the beakers from their packaging. Inspect each beaker for any signs of damage, such as chips, cracks, or scratches, which could compromise safety and performance.
2. **Initial Cleaning:** Before first use, wash the beakers thoroughly with a mild laboratory detergent and rinse with distilled water. Ensure all manufacturing residues are removed.

4. OPERATING INSTRUCTIONS

4.1. General Use

United Scientific beakers are suitable for a wide range of laboratory tasks. Always ensure the beaker size is appropriate for the volume of liquid being handled to prevent spills and allow for proper mixing.

4.2. Measuring Liquids

The beakers feature approximate graduations. For precise volume measurements, use calibrated volumetric glassware such as graduated cylinders or volumetric flasks. When reading the volume in a beaker, ensure the beaker is on a level surface and read the bottom of the meniscus at eye level.

4.3. Mixing and Stirring

The wide mouth of the beakers facilitates easy mixing and stirring of solutions. Use appropriate stirring rods or magnetic stirrers. Avoid forceful stirring that could cause splashing or damage to the beaker.

4.4. Heating Liquids

Borosilicate 3.3 glass offers excellent resistance to high temperatures and thermal shock. Beakers can be heated directly on a hot plate, with a Bunsen burner (using a wire gauze with ceramic center), or in a water bath. Always heat gradually and evenly. Avoid rapid temperature changes, such as placing a hot beaker directly onto a cold surface or adding cold liquid to a hot beaker, to prevent thermal stress and potential breakage.

4.5. Pouring Liquids

The integrated pour spout is designed to facilitate controlled transfer of liquids. To minimize dripping, ensure the liquid is poured steadily and directly from the spout. For very slow or precise pouring, a stirring rod can be used to guide the liquid flow from the spout into the receiving vessel.



Image 3: Detailed view of the beaker's pour spout, illustrating its design for liquid transfer.

Your browser does not support the video tag.

Video 1: This video from United Scientific Supplies demonstrates the various sizes and types of borosilicate glass beakers, including their features and applications in a laboratory setting.

5. CARE AND MAINTENANCE

5.1. Cleaning

Beakers should be cleaned immediately after use to prevent residues from drying and becoming difficult to remove. They are dishwasher safe. For manual cleaning, use a non-abrasive brush or sponge with a suitable laboratory detergent. Rinse thoroughly with tap water, followed by distilled or deionized water, to prevent water spots or contamination.

5.2. Storage

Store clean, dry beakers in a manner that prevents chipping or breakage. Avoid stacking them directly without protective dividers. Store in a stable location away from edges where they could fall.

6. SAFETY GUIDELINES AND TROUBLESHOOTING

6.1. General Safety

- Always wear appropriate personal protective equipment (PPE), such as safety glasses, when handling chemicals or glassware.
- Inspect beakers for damage before each use. Do not use chipped, cracked, or deeply scratched glassware, as it may break unexpectedly.
- Handle hot beakers with appropriate heat-resistant gloves or tongs.
- Avoid sudden impacts or mechanical stress on the glassware.

6.2. Preventing Thermal Shock

While borosilicate glass is highly resistant to thermal shock, extreme or rapid temperature changes can still cause breakage. Always heat and cool glassware gradually. Do not place hot glassware on cold surfaces or introduce cold liquids into hot glassware without allowing it to cool first.

6.3. Handling Breakage

In the event of breakage, carefully collect all glass fragments using a brush and dustpan. Dispose of broken glass in a designated sharps container. Never handle broken glass with bare hands.

7. SPECIFICATIONS

Feature	Detail
Model Number	BG1000-5
Capacity	5mL
Material	Borosilicate 3.3 Glass
Style	Griffin Low Form
Graduations	Approximate, per ASTM-E960 standards
Accuracy Tolerance	+/- 5%
Product Dimensions	1.97 x 1.97 x 1.97 inches
Item Weight	0.71 ounces (per beaker)
Manufacturer	United Scientific Supplies

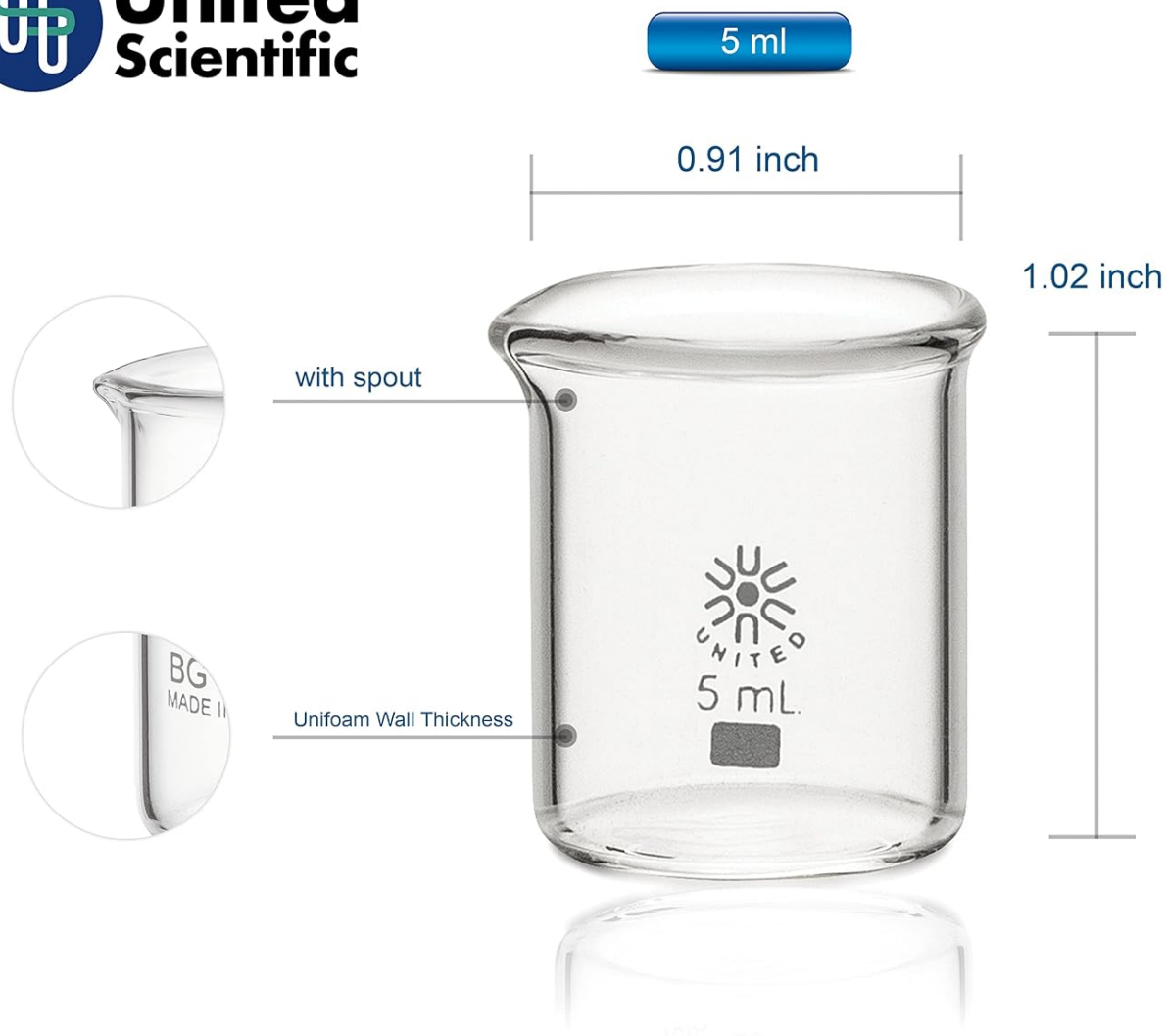


Image 4: Diagram illustrating the dimensions of the 5mL beaker, including height and diameter.

8. WARRANTY AND SUPPORT

Specific warranty information for United Scientific BG1000-5 Borosilicate Glass Beakers is not provided within this manual. For warranty details or technical support, please refer to the official United Scientific Supplies website or contact their customer service directly.

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