

## UltraPure™ Phenol:Water (3.75:1, v/v)

**Cat. No:** 15594-047

**Size:** 400 mL

**Store at 2°C to 8°C.**

**Warning:** Phenol is toxic if it comes into contact with skin, or if swallowed. Causes burns. Harmful if inhaled. After contact with skin, wash immediately with plenty of detergent and water. Immediately remove all contaminated clothing. If you feel unwell, seek medical advice (show label to medical personnel if possible).

### Contents

Phenol and water.

### Description

UltraPure™ Phenol:Water (3.75:1, v/v) is prepared from redistilled, highly pure phenol and highly pure deionized water. The product has a pH of 4.45–5.68 at 25°C. It is free from interfering levels of heavy metals and antioxidants, including hypophosphorous acid.

UltraPure™ Phenol:Water (3.75:1, v/v) is used in the preparation of phenol saturated with various buffers for phenol extraction of nucleic acid solutions. It is packaged in amber bottles under argon to enhance chemical stability. The product consists of one clear, homogeneous, liquid phase.

### Storage Considerations

If stored improperly, phenol can undergo oxidation. Oxidized phenol typically appears yellow or red in color when saturated with water or buffer. To extend product stability, it is recommended that the gas volume above the solution be flushed with argon or nitrogen following each use.

### Product Qualification

The Certificate of Analysis provides detailed quality control and product qualification information for each product. Go to the product description page at [thermofisher.com](http://thermofisher.com) and search for the Certificate of Analysis by product lot number, which is printed on the box.

## Instructions for Use

Swirl to mix, unscrew cap, and remove desired amount of solution. To retain the protective argon layer in the bottle, it is advisable to remove partial volumes of the solution by pipetting.

Note that UltraPure™ Phenol:Water (3.75:1, v/v) is phenol containing less than a saturating amount of water.\* This does not significantly affect protocols involving repeated extraction of phenol with equal volumes of aqueous buffer. For example, to prepare phenol saturated with 0.1 M Tris-HCl buffer (pH 8.0):

1. To an aliquot of UltraPure™ Phenol:Water (3.75:1, v/v), add an equal volume of 0.5 M Tris-HCl (pH 8.0).
2. Mix well, and allow the phases to separate at 15–30°C.
3. Aspirate the upper, aqueous phase.
4. Add an equal volume of 0.1 M Tris-HCl (pH 8.0). Repeat step 2.
5. Check the pH of the aqueous phase with pH paper, and repeat steps 3 and 4 until the desired pH is obtained.

If a protocol demands the use of water-saturated phenol, mix an aliquot of UltraPure™ Phenol:Water (3.75:1, v/v) at 15–30°C with 0.13 volumes of distilled, deionized water. The resulting mixture will contain a slightly less than saturating amount of water. An admixture of additional water may result in formation of a fine emulsion, which may require additional time to separate into two clear phases, due to the low salt content of UltraPure™ Phenol:Water (3.75:1, v/v). However, such an emulsion should rapidly disperse upon extraction with a buffer.

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\* At 2–8°C, the composition of water-saturated phenol is approximately phenol:water (2.7:1, v/v), and at 15–30°C the composition of water-saturated phenol is approximately phenol:water (2.2:1, v/v).