invitrogen
by Thermo Fisher Scientific

UltraPure™ Phenol

Cat. No. 15509-037 **Size: 500 g** **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).

Description

UltraPure™ Phenol is a redistilled, highly pure grade of phenol. It is free from interfering levels of heavy metals and antioxidants, including hypophosphorous acid. UltraPure™ Phenol is suitable for nucleic acid extractions. It is packaged in amber bottles in crystalline form under nitrogen to enhance chemical stability.

Storage

Product Form	Storage Temperature	Storage Conditions	Stability
Crystalline phenol	2–8°C	Amber or foil-wrapped bottle under nitrogen	3 to 6 months
Water-saturated phenol	2–8°C	Amber or foil-wrapped bottle	3 to 6 months
Buffer-saturated phenol	2–8°C	Amber or foil-wrapped bottle	One month

Note: If stored or reconstituted improperly, crystalline phenol can undergo oxidation. Oxidized phenol typically appears yellow or red in color when water or buffer saturated. The rate of oxidation increases with increasing pH, temperature and buffer concentration. It is recommended that the phenol be water saturated prior to equilibration with buffer to minimize oxidation.

Water Saturation of UltraPure™ Phenol

1. Remove bottle from freezer and allow to warm to 15–30°C. Loosen cap to prevent pressure build-up.
2. Place bottle in hot water bath at 65°C until crystals have melted. **Note:** Water saturation may be carried out directly in the 100 g bottle (adequate space is provided). With the 1 kg bottle, remove the portion of phenol to be used. Store the unused portion at 2–8°C under nitrogen gas.
3. Add enough deionized water to fill 100 g bottle to the base of the neck. A saturated solution of phenol contains 12.36 mL of deionized water per 100 g of phenol.
4. Cap securely and mix the organic and aqueous phases until they form a fine emulsion.
5. Store at 2–8°C until phases separate (8–16 hours).
6. Aspirate the upper aqueous layer.
7. Aliquot the phenol into volumes for standard use.
8. Add enough deionized water to cover the phenol.
9. Store at 2–8°C protected from light (in amber bottles or bottles wrapped in foil). This phenol should be stable for several months.

After saturation with water, the phenol may be equilibrated with buffer. The aqueous phase of water-saturated phenol is typically pH 4.7 to 5.5. Because phenol has a pK_a of 10.0 at 25°C and is susceptible to oxidation at a high pH, we recommend that the buffers used to equilibrate the phenol not exceed pH 8.0. If desired, 8-hydroxyquinoline (0.1% w/w) may be added as an antioxidant.

Buffer saturation of UltraPure™ Phenol with Tris-HCl

1. Remove an aliquot of the water-saturated phenol and add an equal volume of 0.5 M Tris-HCl (pH 8.0).
2. Mix well and let the phases separate at 15–30°C. Centrifugation may be used to accelerate the separation.
3. Aspirate the upper aqueous phase.
4. Add equal volume of 0.1 M Tris-HCl (pH 8.0). Repeat step 2.
5. Check pH of aqueous phase with pH paper and repeat steps 3 and 4 until the desired pH is obtained.
6. Store at 2–8°C protected from light (in amber bottles or bottles wrapped in foil). Use within one month.

Quality Control

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

For Research Use Only. Not for use in diagnostic procedures.

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