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Liquefied Phenol

DEFINITION

Liquefied Phenol is Phenol maintained in a liquid condition by the presence of about 10% of water. It contains NLT 89.0% by weight of C_6H_6O. It may contain a suitable stabilizer.

[**Caution—**Avoid contact with skin because serious burns may result.]

[Note—When phenol is to be mixed with a fixed oil, mineral oil, or white petrolatum, use crystalline Phenol, not Liquefied Phenol.]

IDENTIFICATION

• **A.** To a solution add bromine TS: a white precipitate is formed, and it dissolves at first but becomes permanent as more of the reagent is added.

• **B.** To 10 mL of a solution (1 in 100) add 1 drop of ferric chloride TS: a violet color is produced.

ASSAY

Change to read:

• **Procedure**

Sample solution: Place 2 g of Liquefied Phenol in a 1000-mL volumetric flask, and dilute with water to volume.

Analysis: Pipet 20 mL of the *Sample solution* into an iodine flask, add 30.0 mL of 0.1 N bromine VS, then add 5 mL of hydrochloric acid, and immediately insert the stopper. Shake the flask repeatedly during 30 min, allow it to stand for 15 min, add quickly 5 mL of potassium iodide solution (1 in 5), taking precautions against the escape of bromine vapor, and at once insert the stopper in the flask. Shake thoroughly, remove the stopper, and rinse it and the neck of the flask with a small quantity of water so that the washing flows into the flask. Add 1 mL of chloroform, and shake the mixture.

Titrate the liberated iodine with 0.1 N sodium thiosulfate VS, adding 3 mL of starch TS as the endpoint is approached. Perform a blank determination (see ▲*Titrimetry* ⟨541⟩▲ (CN 1-Aug-2024)). Each mL of 0.1 N bromine is equivalent to 1.569 mg of C_6H_6O.

Acceptance criteria: NLT 89.0% by weight of C_6H_6O

SPECIFIC TESTS

• **Clarity of Solution and Reaction:** A solution (1 in 15) is clear, and is neutral or acid to litmus paper.

• **Limit of Nonvolatile Residue:** Heat 5 g in a tared porcelain dish on a steam bath until it has evaporated, and dry the residue at 105° for 1 h: NMT 0.05% of residue remains.

• **Distilling Range,** *Method I* ⟨721⟩**:** NMT 182.5°, an air-cooled condenser being used

ADDITIONAL REQUIREMENTS

• **Packaging and Storage:** Preserve in tight, light-resistant glass containers.

• **Labeling:** Label it to indicate the name and amount of any substance added as a stabilizer.

Auxiliary Information - Please check for your question in the FAQs before contacting USP.

Topic/Question	Contact	Expert Committee
LIQUEFIED PHENOL	Documentary Standards Support	SM32020 Small Molecules 3
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM32020 Small Molecules 3

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