Edition: BP 2025 (Ph. Eur. 11.6 update)

Liquefied Phenol

General Notices

Action and use

Antiseptic; antimicrobial preservative; antipruritic.

When Phenol is to be mixed with collodion, fixed oils or paraffins, melted Phenol should be used and not Liquefied Phenol.

DEFINITION

Liquefied Phenol contains not less than 77.0% and not more than 81.5% w/w of Phenol in Purified Water. It is prepared by adding Purified Water to melted Phenol.

CHARACTERISTICS

A colourless or faintly coloured liquid; caustic.

Soluble in *water*; miscible with *ethanol (96%)*, with *ether* and with *glycerol*.

IDENTIFICATION

A. Dissolve 0.6 g in 2 mL of 13.5M *ammonia* and dilute to 100 mL with *water*. To 2 mL of the resulting solution add 0.05 mL of *sodium hypochlorite solution*. A blue colour is produced which becomes progressively more intense.
B. Dilute 1 mL of a 15% w/v solution to 10 mL and add 0.1 mL of *iron(III) chloride solution R1*. A violet colour is produced which is discharged on the addition of *propan-2-ol*.
C. To 1 mL of a 15% w/v solution add 10 mL of *water* and 1 mL of *bromine water*. A white or yellowish white precipitate is produced.

TESTS

Acidity

To 2 mL of a 15% w/v solution add 0.05 mL of *methyl orange solution*. The solution is yellow.

Clarity and colour of solution

A solution of 1.0 mL in 14 mL of *water*, at 20°, is *clear*, Appendix IV A, and not more intensely coloured than *reference solution* R_7 or B_7, Appendix IV B, Method II.

Weight per mL

1.055 to 1.060 g, Appendix V G.

Non-volatile matter

When heated on a water bath and dried at 105°, leaves not more than 0.05% w/v of residue.

ASSAY

Dissolve 2.5 g in sufficient *water* to produce 1000 mL, transfer 25 mL to a 500 mL glass-stoppered flask and add 50 mL of *0.05M bromine VS* and 5 mL of *hydrochloric acid*, stopper, swirl occasionally over a period of 30 minutes and allow to stand for 15 minutes. Add 5 mL of a 20% w/v solution of *potassium iodide* taking care to avoid loss of bromine, shake thoroughly and titrate with 0.1M *sodium thiosulfate VS* until only a faint yellow colour remains. Add 0.1 mL of *starch mucilage* and 10 mL of *chloroform* and complete the titration with vigorous shaking. Repeat the operation without the material being examined. The difference between the titrations represents the amount of bromine required. Each mL of *0.05M bromine VS* is equivalent to 1.569 mg of C_6H_6O.

STORAGE

Liquefied Phenol should be protected from light. Liquefied Phenol may congeal or deposit crystals if stored at a temperature below 4°. It should be completely melted before use.

LABELLING

The label states ‘contains 80% phenol’.