Cresol

クレゾール

C_7H_8O: 108.14

Cresol is a mixture of isomeric cresols.

Description Cresol is a clear, colorless or yellow to yellow-brown liquid. It has a phenol-like odor.

It is miscible with ethanol (95) and with diethyl ether.

It is sparingly soluble in water.

It dissolves in sodium hydroxide TS.

A saturated solution of Cresol is neutral to bromocresol purple TS.

It is a highly refractive liquid.

It becomes dark brown by light or on aging.

Identification To 5 mL of a saturated solution of Cresol add 1 to 2 drops of dilute iron (III) chloride TS: a blue-purple color develops.

Specific gravity d_{20}^{20}: 1.032 - 1.041

Purity (1) Hydrocarbons—Dissolve 1.0 mL of Cresol in 60 mL of water: the solution shows no more turbidity than that produced in the following control solution.

Control solution: To 54 mL of water add 6.0 mL of 0.005 mol/L sulfuric acid and 1.0 mL of barium chloride TS, and after thorough shaking, allow to stand for 5 minutes.

(2) Sulfur compounds—Transfer 20 mL of Cresol in a 100-mL conical flask, place a piece of moistened lead (II) acetate paper on the mouth of the flask, and warm for 5 minutes on a water bath: the lead (II) acetate paper may develop a yellow color, but neither a brown nor a dark tint.

Distilling range 196 - 206°C, not less than 90 vol%.

Containers and storage Containers—Tight containers.

Storage—Light-resistant.

Cresol Solution

クレゾール水

Cresol Solution contains not less than 1.25 vol% and not more than 1.60 vol% of cresol.

Method of preparation

Saponated Cresol Solution	30 mL
Water or Purified Water	a sufficient quantity
	To make 1000 mL

Prepare by mixing the above ingredients.

Description Cresol Solution is a clear or slightly turbid, yellow solution. It has the odor of cresol.

Identification Shake 0.5 mL of the oily layer obtained in the Assay with 30 mL of water, filter, and perform the following tests using this filtrate as the sample solution:

(1) To 5 mL of the sample solution add 1 to 2 drops of iron (III) chloride TS: a blue-purple color develops.

(2) To 5 mL of the sample solution add 1 to 2 drops of bromine TS: a light yellow, flocculent precipitate is produced.

Assay Transfer 200 mL of Cresol Solution, exactly measured, to a 500-mL distilling flask. Add 40 g of sodium chloride and 3 mL of dilute sulfuric acid, and connect the distilling apparatus with the distilling flask, and distil into a cassia flask which contains 30 g of powdered sodium chloride and 3 mL of kerosene, exactly measured, until the distillate measures 90 mL. Draw off the water from the condenser, and continue the distillation until water vapor begins to come out of the tip of the condenser. Shake often the cassia flask in warm water to dissolve the sodium chloride, and allow to stand for 15 minutes. After cooling to 15°C, add a saturated solution of sodium chloride, and allow to stand for more than 3 hours with occasional shaking. Allow to stand for 1 to 2 minutes with gentle shaking to combine the separated oil drops with the oil layer. The difference between the number of mL of the oil layer measured and 3 mL represents the amount (mL) of cresol.

Containers and storage Containers—Tight containers.

Saponated Cresol Solution

クレゾール石ケン液

Saponated Cresol Solution contains not less than 42 vol% and not more than 52 vol% of cresol.

Method of preparation

Cresol	500 mL
Fixed Oil	300 mL
Potassium Hydroxide	a suitable quantity
Water or Purified Water	a sufficient quantity
	To make 1000 mL

Dissolve Potassium Hydroxide, in required quantity for saponification, in a sufficient quantity of Water or Purified Water, add this solution to fixed oil, previously warmed, add a sufficient quantity of Ethanol, if necessary, heat in a water bath by thorough stirring, and continue the saponification. After complete saponification, add Cresol, stir thoroughly until the mixture becomes clear, and add sufficient Water or Purified Water to make 1000 mL. A corresponding amount of Sodium Hydroxide may be used in place of Potassium Hydroxide.

Description Saponated Cresol Solution is a yellow-brown to red-brown, viscous liquid. It has the odor of cresol.

It is miscible with water, with ethanol (95) and with glycerin.

It is alkaline.

Identification Proceed as directed in the Identification under Cresol, using the distillate in the Purity (3).

Purity (1) Alkali—Mix well 0.50 mL of Saponated Cresol Solution with 10 mL of neutralized ethanol, add 2 to 3 drops of phenolphthalein TS and 0.10 mL of 1 mol/L hydrochloric acid VS: no red color develops.