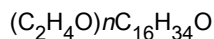
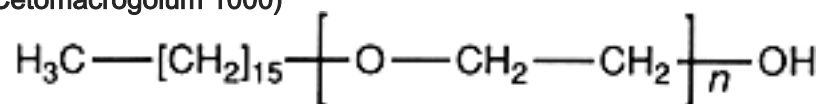


**Cetomacrogol 1000 (Cetomacrogolum 1000)**

**Chemical name.** Polyethylene glycol monohexadecyl ether;  $\alpha$ -hexadecyl- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl); CAS Reg. No. 9004-95-9.

**Description.** A cream-coloured, waxy, unctuous mass, pellets, or flakes; when heated, it melts to a brownish yellow, clear liquid; odourless or almost odourless.

**Solubility.** Soluble in water, ethanol (~750 g/l) TS, and acetone R; practically insoluble in light petroleum R.

**Category.** Nonionic surfactant.

**Storage.** Cetomacrogol 1000 should be kept in a well-closed container, protected from heat.

**Requirements**

**Definition.** Cetomacrogol 1000 is a condensation product of linear fatty alcohols with ethylene oxide, prepared under controlled conditions in order to obtain the required ether with the polyethylene glycol of the desired molecular mass.

**Identity tests**

A. Dissolve 0.1 g in 5 mL of water and add 10 mL of hydrochloric acid (~70 g/l) TS, 10 mL of barium chloride (50 g/l) TS, and 10 mL of phosphomolybdic acid (80 g/l) TS; a greenish yellow precipitate is produced.

B. Dissolve 0.1 g in 5 mL of water and add gradually tannic acid (50 g/l) TS; a precipitate is formed which dissolves on further addition of tannic acid solution.

**Melting point.** Not lower than 38 °C.

**Refractive index.** At 60 °C,  $n_D^{20} = 1.448 - 1.452$

**Acid value.** Not more than 0.5.

**Alkalinity.** Dissolve 2 g in 20 mL of carbon-dioxide-free water R, add 1 drop of phenolphthalein/ethanol TS, and titrate with hydrochloric acid (0.1 mol/l) VS; not more than 0.5 mL is required to obtain a pink colour.

**Hydroxyl value.** Use 10 g, Method A; 40.0-52.5.

**Saponification value.** Use 10 g; not more than 1.0.

**Water.** Determine as described under [2.8 Determination of water by the Karl Fischer method](#), Method A, using 2.5 g; the water content is not more than 10 mg/g.