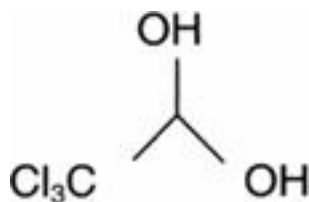


Chloral hydrate (Chlorali hydras) $C_2H_3Cl_3O_2$ **Relative molecular mass.** 165.4**Chemical name.** 2,2,2-Trichloroethane-1,1-diol; CAS Reg. No. 302-17-0.**Description.** Colourless, transparent or white crystals; odour, aromatic, pungent and characteristic.**Solubility.** Very soluble in water; freely soluble in ethanol (~750 g/l) TS and ether R.**Category.** Premedication.**Storage.** Chloral hydrate should be kept in a tightly closed container.**Additional information.** Melting temperature, about 55 °C; when exposed to air it slowly volatilizes.**Requirements**Chloral hydrate contains not less than **98.5%** and not more than **101.0%** of $C_2H_3Cl_3O_2$.*Note:* Prepare the following test solution for use in "Identity tests A and B", and for "Clarity and colour". Dissolve 2.5 g in sufficient carbon-dioxide-free water R to produce 25 mL.**Identity tests**

A. To 1.0 mL of the test solution add 2.0 mL of sodium sulfide TS; a yellow colour develops which quickly becomes reddish brown. On standing, a red precipitate may be produced.

B. Transfer 10 mL of the test solution to a conical flask and add 10 mL of 1-ethylquinaldinium iodide (15 g/l) TS that has previously been filtered through a 0.45- μ m filter. Then add 60 mL of 2-propanol R, 5 mL of monoethanolamine (0.1 mol/l) VS, and 15 mL of water. Mix, and heat in a water-bath at 60 °C for 15 minutes; a blue colour develops.

Chlorides. Dissolve 2.5 g in a mixture of 2 mL of nitric acid (~130 g/l) TS and 20 mL of water, and proceed as described under [2.2.1 Limit test for chlorides](#); the chloride content is not more than 0.1 mg/g.

Chloral alcoholate. Warm 1.0 g with 10 mL of sodium hydroxide (~80 g/l) TS. Filter the upper layer and add iodine (0.05 mol/l) VS a drop at a time until a yellow colour is obtained; no precipitate is produced within 1 hour.

Clarity and colour of solution. The test solution is clear and colourless.

Sulfated ash. Not more than 1.0 mg/g.

pH value. pH of a 0.10 g/mL solution in carbon-dioxide-free water R, 3.5-5.5.

Assay. Dissolve about 4 g, accurately weighed, in 10 mL of carbon-dioxide-free water R and add 30.0 mL of carbonate-free sodium hydroxide (1 mol/l) VS. Allow the mixture to stand for 2 minutes and titrate with sulfuric acid (0.5 mol/l) VS, using phenolphthalein/ethanol TS as indicator. Repeat the procedure without the Chloral hydrate being examined and make any necessary corrections.

Each mL of carbonate-free sodium hydroxide (1 mol/l) VS is equivalent to 0.1654 g of $C_2H_3Cl_3O_2$.