



C3.6.4 FOOD ANALYTICS

C3.6.4.2 Determination of the content of phosphoric acid in a cola drink

Determination of the content of phosphoric acid in a cola drink (C3.6.4.2)

Cat. No.	Description	C3.6.4.2
524 005W	Mobile-CASSY 2 WiFi	1
524 220	CASSY Lab 2	1
524 0672	pH adapter S	1
529 672	pH sensor, BNC	1
664 131	Beaker Boro 3.3, 400 ml, squat	2
664 130	Beaker, Boro 3.3, 250 ml, squat	1
665 845	Burette, clear glass, 25 ml	1
666 559	Burette clamp for 1 burette, roller clamp	1
301 09	Bosshead S	2
666 555	Universal clamp 0...80 mm	1
607 105	Magnetic stirrer mini	1
300 02	Stand base, V-shaped, small	1
300 11	Saddle base	1
301 26	Stand rod 25 cm, 10 mm Ø	1
301 27	Stand rod 50 cm, 10 mm Ø	1
661 243	Wash bottle PE 500 ml	1
673 8410	Sodium hydroxide solution, 0.1 mol/l, 500ml	1
674 4640	Buffer solution pH 4.00, 250 ml	1
674 4670	Buffer solution pH 7.00, 250 ml	1
	additionally required: Cola beverage	1

As an applied science, food analytics forms the basis for the study and assessment of the quality and safety of food.

Phosphoric acid is added to cola in order to heighten the sensation of thirst, as a preservative, and to cover up the sugary taste. In experiment C3.6.4.2, phosphoric acid is titrated with sodium hydroxide. When titrating cola, the first two buffer stages are also clearly recognisable, just as in the titration of phosphoric acid. (It is generally impossible to titrate the third stage in these diluted solutions.) The second stage becomes indistinct in the presence of other ingredients. The phosphoric acid content of the cola beverage can be determined with the first stage.