Ammonium (*2.4.1*): maximum 20 ppm.

Dilute 10 ml of solution S to 15 ml with *water R*. Prepare the standard using a mixture of 5 ml of *water R* and 10 ml of *ammonium standard solution (1 ppm NH_4) R*.

Arsenic (*2.4.2, Method A*): maximum 2 ppm, determined on 0.5 g.

Calcium (*2.4.3*): maximum 100 ppm.

To a suspension of 1.0 g in 10 ml of *distilled water R* add *hydrochloric acid R* until neutral and dilute to 15 ml with *distilled water R*.

Iron (*2.4.9*): maximum 20 ppm.

Dissolve 0.5 g in 5 ml of *dilute hydrochloric acid R* and dilute to 10 ml with *water R*.

Heavy metals (*2.4.8*): maximum 10 ppm.

Dissolve 2.0 g in a mixture of 2 ml of *hydrochloric acid R* and 18 ml of *water R*. 12 ml of the solution complies with test A. Prepare the reference solution using *lead standard solution (1 ppm Pb) R*.

ASSAY

Dissolve 1.500 g in 50 ml of *carbon dioxide-free water R*. Titrate with *1 M hydrochloric acid*, using 0.2 ml of *methyl orange solution R* as indicator.

1 ml of *1 M hydrochloric acid* is equivalent to 84.0 mg of $NaHCO_3$.

01/2008:0677
corrected 6.0

SODIUM HYDROXIDE

Natrii hydroxidum

NaOH M_r 40.00
[1310-73-2]

DEFINITION

Content: 97.0 per cent to 100.5 per cent.

CHARACTERS

Appearance: white or almost white, crystalline masses, supplied as pellets, sticks or slabs, deliquescent, readily absorbing carbon dioxide.

Solubility: very soluble in water, freely soluble in ethanol (96 per cent).

IDENTIFICATION

A. pH (*2.2.3*): minimum 11.0.

Dissolve 0.1 g in 10 ml of *water R*. Dilute 1 ml of the solution to 100 ml with *water R*.

B. 2 ml of solution S (see Tests) gives reaction (a) of sodium (*2.3.1*).

TESTS

Solution S. *Carry out the procedure described below with caution*. Dissolve 5.0 g in 12 ml of *distilled water R*. Add 17 ml of *hydrochloric acid R1*, adjust to pH 7 with *1 M hydrochloric acid* and dilute to 50 ml with *distilled water R*.

Appearance of solution. The solution is clear (*2.2.1*) and colourless (*2.2.2, Method II*).

Dissolve 1.0 g in 10 ml of *water R*.

Carbonates: maximum 2.0 per cent, calculated as Na_2CO_3 as determined in the assay.

Chlorides (*2.4.4*): maximum 50 ppm.

Dissolve 1.0 g in 5 ml of *water R*, acidify the solution with about 4 ml of *nitric acid R* and dilute to 15 ml with *water R*. The solution, without addition of *dilute nitric acid R*, complies with the test.

Sulphates (*2.4.13*): maximum 50 ppm.

Dissolve 3.0 g in 6 ml of *distilled water R*, adjust to pH 7 with *hydrochloric acid R* (about 7.5 ml) and dilute to 15 ml with *distilled water R*.

Iron (*2.4.9*): maximum 10 ppm, determined on solution S.

Heavy metals (*2.4.8*): maximum 20 ppm.

12 ml of solution S complies with test A. Prepare the reference solution using *lead standard solution (2 ppm Pb) R*.

ASSAY

Dissolve 2.000 g in about 80 ml of *carbon dioxide-free water R*. Add 0.3 ml of *phenolphthalein solution R* and titrate with *1 M hydrochloric acid*. Add 0.3 ml of *methyl orange solution R* and continue the titration with *1 M hydrochloric acid*.

1 ml of *1 M hydrochloric acid* used in the 2nd part of the titration is equivalent to 0.1060 g of Na_2CO_3.

1 ml of *1 M hydrochloric acid* used in the combined titrations is equivalent to 40.00 mg of total alkali, calculated as NaOH.

STORAGE

In an airtight, non-metallic container.

01/2008:0196
corrected 6.0

SODIUM IODIDE

Natrii iodidum

NaI M_r 149.9
[7681-82-5]

DEFINITION

Content: 99.0 per cent to 100.5 per cent (dried substance).

CHARACTERS

Appearance: white or almost white, crystalline powder or colourless crystals, hygroscopic.

Solubility: very soluble in water, freely soluble in ethanol (96 per cent).

IDENTIFICATION

A. Solution S (see Tests) gives the reactions of iodides (*2.3.1*).

B. Solution S gives the reactions of sodium (*2.3.1*).

TESTS

Solution S. Dissolve 10.0 g in *carbon dioxide-free water R* prepared from *distilled water R* and dilute to 100 ml with the same solvent.

Appearance of solution. Solution S is clear (*2.2.1*) and colourless (*2.2.2, Method II*).

Alkalinity. To 12.5 ml of solution S add 0.1 ml of *bromothymol blue solution R1*. Not more than 0.7 ml of *0.01 M hydrochloric acid* is required to change the colour of the indicator.