

TANABE U.S.A., INC.

7930 Convoy Court, San Diego, CA 92186-5132 Tel: (858) 571-8410 Fax: (858) 571-3476

Methionine

Methionine contains not less than 98.5 percent and not more than 101.5 percent of $C_5H_{11}NO_2S$, as methionine, calculated on the dried basis.

Methionine: White crystals, having a characteristic odor and taste. Soluble in water, in warm dilute alcohol, and in dilute mineral acids; insoluble in ether, in absolute alcohol, in benzene, and in acetone (α -form).

USP XXIII Reference No. MET-50217

Packaging and storage Preserve in well-closed containers. USP Reference standards (11) α -USP L-Methionine RS. Identification, Infrared Absorption (197K). Specific rotation (781S): between +21.9° and +24.1°.

Test solution 20 mg per mL, in 6 N hydrochloric acid. pH (791): between 5.6 and 6.1 in a solution (1 in 100).

Loss on drying (731) α -Dry it at 105° for 3 hours: it loses not more than 0.3% of its weight.

Residue on ignition (281): not more than 0.4%.

Chloride (221) α -A 0.73-g portion shows no more chloride than corresponds to 0.50 mL of 0.020 N hydrochloric acid (0.05%).

Sulfate (221) α -A 0.33-g portion shows no more sulfate than corresponds to 0.10 mL of 0.020 N sulfuric acid (0.03%).

Arsenic (211): 1.5 ppm. Iron (241): 0.003%. Heavy metals, Method I (231): 0.0015%.

Organic volatile impurities, Method I (467): meets the requirements.

Assay α -Transfer about 140 mg of Methionine, accurately weighed, to a 125-mL flask, dissolve in a mixture of 3 mL of formic acid and 50 mL of glacial acetic acid, and titrate with 0.1 N perchloric acid VS, determining the endpoint potentiometrically. Perform a blank determination, and make any necessary correction. Each mL of 0.1 N perchloric acid is equivalent to 14.92 mg of $C_5H_{11}NO_2S$.