9.2.24 - Metals and Other Elements at Trace Levels in Foods / Single Element Methods

AOAC Official Method 974.14
Mercury in Fish

Alternative Digestion Method
First Action 1974
Final Action 1976

Caution: Do not change sample weight or acid volume stated; otherwise excessive pressure during heating may result in explosion.

A. Apparatus

Digestion vessel.—See Figure **974.14**. Stainless steel body supporting Teflon crucible and screw-on cap with Teflon liner to provide Teflon sealing surface. Teflon spout is snapped on outside rim to permit quantitative transfer of contents without contact with metal parts. (Available from Uni-Seal Decomposition Vessels, PO Box 9463, Haifa, 31 094, Israel.)

B. Digestion

Accurately weigh 1± 0.1 g test portion (*Caution*: Do not use >300 mg dry weight; for materials with high fat content do not use >200 mg dry weight) into digestion vessel, add 5.0 mL HNO_3, and close vessel by tightening screw cap. Place vessel, without tilting, into preheated 150°C oven 30-60 min or until clear. Remove vessel and let cool to room temperature. Unscrew cap, snap on spout, and transfer with aid of 95 mL diluting solution, **971.21B(b)** (*see* 9.2.22), to 250 mL flask, **971.21A(e)** (*see* 9.2.22). Proceed as in **971.21C** (*see* 9.2.22), beginning "Adjust output of pump . . .".

References:
JAOAC **55**, 741(1972); **57**, 568(1974).
Anal. Chem. **40**, 1682(1968).

CAS-7439-97-6 (mercury)