

16.6.04

AOAC Official Method 970.70 Light Filth in White Breads and High-Fat Products

Flotation Method
First Action 1970
Final Action 1988

Add 1 L hot (55 –70°C) tap water to 2 L beaker. Add 20 mL emulsifier, **945.75C(j)(2)** (see 16.1.01), and 5 mL emulsifier, **945.75C(j)(1)** (see 16.1.01), and mix well. Add 225 g test portion, breaking any crust to <1 sq. in. (6.5 cm²). Stir well. Proceed with either autoclave, **(a)**, or steam bath, **(b)**, digestion.

(a) Autoclave.—Add 30 mL HCl with stirring. Add 1 mL antifoam solution, **945.75C(e)** (see 16.1.01). Autoclave as in **945.75B(b)(1)** or **(b)(2)** (see 16.1.01) for 30 min at 121°C.

(b) Steam bath.—Add 90 mL HCl with stirring. Heat in steam bath 10 min. Add 1 mL antifoam solution. Boil 15 min on magnetic stirrer-hot plate, **945.75B(n)** (see 16.1.01), keeping beaker covered with watch glass.

Wet sieve on No. 230 plain weave sieve, **945.75B(r)** (see 16.1.01), with hot water (55 –70°C). Sieve until effluent is

clear and foam is gone. Transfer sieve retainings to original beaker. (*Caution:* Do not allow contents of beaker or sieve to cool.) Add 30 mL HCl and dilute to 1 L with H₂O. Stir on stirrer-hot plate, and bring to bp. Boil 6 min, add 50 mL mineral oil, **945.75C(p)** (see 16.1.01), and continue heating until boiling resumes. Transfer beaker to cool magnetic stirrer and stir magnetically, **970.66B(c)** (see 16.1.02), 3 min.

Promptly transfer beaker contents to percolator, **945.75C(h)(2)** (see 16.1.01), containing ca 250 mL H₂O. Rinse beaker into percolator and bring volume to 1700 mL mark with H₂O. After 1 min, stir percolator contents with glass rod. Place rod in beaker and set aside to receive final oil drain. Let stand 2 min. Drain oil to 250 mL mark and discard drainings. Refill percolator with H₂O. Continue drain and refill cycles until lower aqueous phase is almost clear. Drain oil to 250 mL mark. Drain oil into original beaker. Wash percolator sides with minimum of 50 mL H₂O and alcohol or isopropanol. If sides do not appear clean, follow with H₂O and 5% detergent wash, **945.75C(i)** (see 16.1.01). Filter onto ruled paper and examine microscopically.

Reference: *JAOAC* **53**, 562(1970).