

## 16.13.14

### AOAC Official Method 955.46 Filth in Tomato Products

First Action 1955  
Final Action 1988

#### A. Fly Eggs and Maggots

(a) *Comminuted products*.—Thoroughly mix test product and transfer 100 g test portion to 2 L separator. Add 20–30 mL heptane and shake thoroughly, releasing pressure as necessary. Fill separator with H<sub>2</sub>O in such manner as to produce maximum agitation. Place separator in ring stand and let settle; at 15 min intervals during 1 h, drain 15–20 mL from separator, and gently shake separator with rotary motion to facilitate settling out of fly eggs and maggots. If drained liquid contains seeds, pass it through No. 10 sieve, and thoroughly rinse seeds and sieve, recovering both liquid portion and rinse H<sub>2</sub>O in beaker. Filter through 10XX bolting cloth, pretreated and dyed as in **945.75B(d)** (see 16.1.01), in Hirsch funnel. Examine for eggs and maggots at ca 10<sup>4</sup>. If fly eggs or maggots are found in this examination, continue separating and draining, as above, additional hour.

(b) *Canned tomatoes*.—Pulp entire contents of can in such way that minimum number of eggs and maggots are crushed or broken. (This may be done by passing material through No. 6 or 8 sieve and adding seeds and residue remaining on sieve to pulp.)

Place 500 g of the well-mixed pulped tomatoes in 6 L separator. Add 125–150 mL heptane, **945.75C(1)** (see 16.1.01), and ca 1 L H<sub>2</sub>O and shake vigorously, releasing pressure as necessary. Fill separator with H<sub>2</sub>O. Place separator in ring stand and let layers separate. At 15 min intervals during 1 h, drain 25–30 mL from bottom of separator, and gently shake separator with rotary motion to facilitate settling of fly eggs and maggots. Each portion may be examined at once or combined with subsequent portions. Pass drained portions through No. 10 sieve and thoroughly rinse seeds and sieve, recovering both liquid portion and rinse H<sub>2</sub>O in beaker. Filter through 10XX bolting cloth in Hirsch funnel. Examine cloth for

eggs and maggots at ca 10<sup>4</sup>. If fly eggs or maggots are found in this examination, continue separating and draining, as above, additional hour.

#### B. Light Filth

(a) *Comminuted products*.—Place 200 g of any tomato product except paste (where 100 g is used) in trap flask, **945.75B(h)(4)** (see 16.1.01), with 20 mL castor oil and mix well. Add enough hot tap water (ca 70°C) to fill flask. (At first, bubbles of air tend to bring up tomato tissues, but after several stirrings these begin to settle out, leaving water layer near oil fairly clear.) Let stand with occasional gentle stirring 30 min; then trap off into beaker. Wash out neck of flask with heptane to remove adhering castor oil. Add little more hot water to flask, stir, let stand 10 min, and then trap off again. (Occasionally it may be necessary to transfer trapped-off material to another trap flask and rewash to eliminate tomato tissue.) Filter trapped-off portion; thoroughly wash beaker, sides of funnel, and paper with heptane to dissolve oil and speed filtration. Examine paper at 20–30<sup>4</sup>.

(b) *Canned tomatoes (Procedure)*.—Drain entire can on No. 6 sieve, saving drained juice. (For cans containing <3 lb (1.4 kg) use 8 in. (20 cm) sieve; use larger sieve for larger cans or drain and rinse portionwise.) Rinse portion on sieve with hot water (ca 70°C) from wash bottle and transfer drained juice, fragments, and washings to one or more 2 L Wildman trap flasks (maximum 900 mL/flask; No. 10 cans require 2). Bring volume in flasks to ca 900 mL with H<sub>2</sub>O (70°C) and add 20–25 mL castor oil. Tilt flask to ca 45° and mix 1 min with brisk rotary motion (200–250 strokes/min). Avoid splashing through surface with stopper. Add hot water to bring oil layer into neck and let stand 30 min with occasional stirring. Trap off into beaker oil–water layer and any debris that rises. Wash out oil in neck with heptane. Add ca 10 mL hot water to flask, stir, let stand 10 min, and trap into same beaker. Add 25–30 mL heptane to beaker and stir to dissolve oil. Filter through paper (use hot water or heptane if necessary) and examine paper microscopically.