

AOAC Official Method 970.33

Boric Acid and Borates in Food

Qualitative Test First Action 1970 Final Action

(a) *Preliminary test.*—Acidify test sample with HCl (7 mL acid to each 100 mL test sample). Heat solid or pasty test samples with enough H₂O to make sufficiently fluid before acidifying. Immerse strip of turmeric paper, [959.09A\(a\)](#) (*see* 47.3.09), in acidified liquid, and let paper dry spontaneously. If Na₂B₄O₇ or H₃BO₃ is present, paper turns characteristic red, changed by NH₄OH to dark blue-green, but restored by acid.

(b) *Confirmatory test.*—Make ca 25 g test portion decidedly alkaline with lime-H₂O or milk of lime and evaporate to dryness on steam bath. Ignite dry residue at low red heat until organic matter is thoroughly charred. Cool, digest with ca 15 mL H₂O, and add HCl dropwise until solution is distinctly acid. Immerse piece of turmeric paper in solution and dry without heat. In presence of Na₂B₄O₇ or H₃BO₃ color change will be same as in (a).

Reference:

USDA Div. Chem. Bull. **51**, p. 113.

CAS-10043-35-3 (boric acid)

CAS-1330-43-4 (sodium borate)