§ 21.96 Ammonia, aqueous.

(a) Alkalinity. Strongly alkaline to litmus.

(b) Ammonia content. 27 to 30 percent by weight. Accurately weigh a glass-stoppered flask containing 25 ml of water, add about 2 ml of the sample, stopper, and weigh again. Add methyl red indicator, and titrate with 1 N sulfuric acid. Each ml of 1 N sulfuric acid is equivalent to 17.03 mg of NH₃.

(c) Color. Colorless liquid.

(d) Non-volatile residue. 2 mg maximum. Dilute a portion of the sample with 1 1/2 times its volume of distilled water. Evaporate 10 ml of this product to dryness in a tared platinum or porcelain dish. Dry residue at 105 °C. for 1 hour, cool and weigh.

(e) Odor. Characteristic (exceedingly pungent).

(f) Specific gravity at 20 °C/4 °C. 0.8920 to 0.9010.


§ 21.97 Benzene.

(a) Distillation range. (For applicable ASTM method, see 1980 Annual Book of ASTM Standards, Part 29, page 573, Standard No. D 836–77; for incorporation by reference, see §21.6(b).) When 100 ml of benzene are distilled by this method, not more than 1 ml should distill below 77 °C., and not less than 95 ml below 85 °C.

(b) Odor. Characteristic odor.

(c) Specific gravity at 15.6 °C/15.6 °C. 0.875 to 0.886.

(d) Water solubility. When 10 ml of benzene are shaken with an equal volume of water in a glass-stoppered bottle, graduated to 0.1 ml, and allowed to stand 5 minutes to separate, the upper layer of liquid shall measure not less than 9.5 ml.


§ 21.98 Bone oil (Dipple’s oil).

(a) Color. The color shall be a deep brown.

(b) Distillation range. When 100 ml are distilled in the manner described for pyridine bases, not more than 5.0 ml should distill below 90 °C.

(c) Pyrrol reaction. Prepare a 1.0 percent solution of bone oil in 95 percent alcohol. Prepare a second solution containing 0.025 percent bone oil by diluting 2.50 ml of the first solution to 100 ml with 95 percent alcohol. Dip a splinter of pine, previously moistened with concentrated hydrochloric acid, into 10 ml of the 0.025 percent bone oil solution. After a few minutes the splinter should show a distinct red coloration.

(d) Reaction with mercuric chloride. Add 5 ml of the 1.0 percent bone oil solution above to 5 ml of a 2 percent alcoholic solution of mercuric chloride. A turbidity is formed at once which separates into a flocculent precipitate on standing several minutes. Add 5.0 ml of the 0.025 percent bone oil solution to 5.0 ml of a 2.0 percent alcoholic solution of mercuric chloride. A faint turbidity appears after several minutes.


§ 21.99 Brucine alkaloid.

(a) Identification test. Add a few drops of concentrated nitric acid to about 10 mg of brucine alkaloid. A vivid red color is produced. Dilute the red solution with a few drops of water and add a few drops of freshly made dilute stannous chloride solution. A reddish purple (violet) color is produced.

(b) Melting point. 178 ±1 °C. Dry the alkaloid in an oven for one hour at 100 °C., increase the temperature to 110 °C, and dry to a constant weight before taking melting point.

Note. Brucine alkaloid tetrahydrate melts at 105 °C, while the anhydrous form melts at 178 °C.

(c) Strychnine test. Brucine alkaloid shall be free of strychnine when tested by the method listed under Brucine Sulfate, N.F. IX.

Note. If the brucine contains as much as 0.05 percent strychnine, a clear distinctive violet color, characteristic of strychnine, will be obtained.

(d) Sulfate test. No white precipitate is formed that is not dissolved by hydrochloric acid when several drops of a