§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 NH_3

(c) *Color.* Colorless liquid.

(d) *Non-volatile residue.* 2 mg maximum. Dilute a portion of the sample with 1½ 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 °/4 °C.* 0.8920 to 0.9010.

[T.D. ATF–133, 48 FR 24673, June 2, 1983. Redesignated by T.D. ATF–442, 66 FR 12854, Mar. 1, 2001]

§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 °/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.

[T.D. ATF–133, 48 FR 24673, June 2, 1983. Redesignated by T.D. ATF–442, 66 FR 12854, Mar. 1, 2001]

§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.

[T.D. ATF–133, 48 FR 24673, June 2, 1983. Redesignated by T.D. ATF–442, 66 FR 12854, Mar. 1, 2001]

§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° 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