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§ 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.

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§ 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 1 N barium chloride solution are added to 10 ml of a solution of the alkaloid.

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

§ 21.100 *n*-Butyl alcohol.

(a) *Acidity (as acetic acid).* 0.03 percent by weight maximum.

(b) *Color.* Colorless.

(c) *Dryness at 20 °C.* Miscible without turbidity with 10 volumes of 60° Bé1. gasoline.

(d) *Odor.* Characteristic odor.

(e) *Specific gravity at 20 °/20 °C.* 0.810 to 0.815.

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

§ 21.101 *tert*-Butyl alcohol.

(a) *Acidity (as acetic acid).* 0.003 percent by weight maximum.

(b) *Color.* Colorless.

(c) *Distillation range.* When 100 ml of tertiary butyl alcohol are distilled, none should distill below 78 °C. and none above 85 °C. More than 95 percent should distill between 81 °−83 °C.