§ 21.94 Acetaldol.

(a) *Purity*. Not less than 90 percent by weight acetaldol as determined by the following method:

Dissolve 15 grams of the acetaldol in distilled water and dilute to 1 liter in a volumetric flask. Transfer 5 ml of this solution to a 250 ml glass-stoppered flask containing 25 ml distilled water. Add 25 ml of a freshly prepared 1 percent sodium bisulfite solution. Prepare a blank omitting the acetaldol solution. Place the flasks in a dark place away from excessive heat or cold and allow to stand six hours. Remove flasks and titrate free bisulfite with 0.1 N iodine solution using starch indicator.

Percent acetaldol by weight=(ml blank − ml test)×200×0.44/weight of sample

Titrations in excess of 100 percent may be obtained if the sample contains appreciable amounts of acetaldehyde.

(b) *Specific gravity at 20 °C*. 1.098 to 1.105.

§ 21.95 Alpha terpineol.

(a) Boiling point at 752mm 218.8–219.4 °C.

(b) Density at 15° 0.9386.

(c) Refractive index at 20° 1.4831.

[T.D. ATF–442, 66 FR 12854, Mar. 1, 2001]

§ 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]