§ 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 = \( \frac{\text{ml blank} \times 200 \times 0.44}{\text{weight of sample}} \) 

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 °C. 0.9386.

(c) Refractive index at 20 °C. 1.4831.


§ 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 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 °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. 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.