

(d) *Dryness at 20 °C.* Miscible without turbidity with 19 volumes of 60° Bé. gasoline.

(e) *Freezing point (first needle).* Above 20 °C.

(f) *Identification test.* Place five drops of a solution containing approximately 0.1 percent tertiary butyl alcohol in ethyl alcohol in a test tube. Add 2 ml of Denige's reagent (dissolve 5 grams of red mercuric oxide in 20 ml of concentrated sulfuric acid; add this solution to 80 ml of distilled water, and filter when cool). Heat the mixture just to the boiling point and remove from the flame. A yellow precipitate forms within a few seconds.

(g) *Nonvolatile matter.* Less than 0.005 percent by weight.

(h) *Odor.* Characteristic odor.

(i) *Residual odor after evaporation.* None.

(j) *Specific gravity at 25 °/25 °C.* 0.780 to 0.786.

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

§ 21.102 Caustic soda, liquid.

(a) The liquid caustic soda may consist of either 50 percent or 73 percent by weight sodium hydroxide in aqueous solution. The amount of caustic soda used shall be such that each 100 gallons of alcohol will contain not less than 8.76 pounds of sodium hydroxide, anhydrous basis.

(b) *Color.* A 2 percent solution of the sodium hydroxide in water shall be water-white.

(c) *Assay.* The sodium hydroxide content of the caustic soda solution shall be determined by the following procedure:

Accurately weigh 2 grams of liquid caustic soda into a 100 ml volumetric flask, dissolve, and dilute to the mark with distilled water at room temperature. Transfer a 25 ml aliquot of the solution to a titration flask, add 10 ml of 1 percent barium chloride solution, 0.2 ml of 1 percent phenolphthalein indicator, and 50 ml of distilled water. Titrate with 0.25 N hydrochloric acid to the disappearance of the pink color. Not less than 25 ml of the hydrochloric acid shall be required to neutralize the sample of diluted 50 percent caustic soda, and not less than 36.5 ml of the hydrochloric acid shall be required to neutralize the sample of diluted 73 percent caustic soda.

One ml of 0.25 N hydrochloric acid equals 0.01 gram of sodium hydroxide (anhydrous).

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

§ 21.103 Chloroform.

(a) *Odor.* Characteristic odor.

(b) *Specific gravity at 25 °/25 °C.* Not less than 1.400.

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

§ 21.104 Cinchonidine.

(a) *Melting point.* 208° to 210 °C.

(b) *Color.* White powder.

(c) *Taste.* Bitter.

(d) *Test.* A solution of cinchonidine in dilute sulfuric acid shall not have more than a faint blue fluorescence (to distinguish from quinine and quinoidine).

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

§ 21.105 Citronella oil, natural.

(a) *Java type:*

(1) *Alcohol content (as Geraniol).* Not less than 85 percent by weight.

(2) *Aldehyde content (as Citronellal).* Not less than 30 percent by weight.

(3) *Refractive index at 20 °C.* 1.4660 to 1.4745.

(4) *Specific gravity at 25 °/25 °C.* 0.875 to 0.893.

(5) *Odor.* Characteristic odor.

(b) *Ceylon type:*

(1) *Alcohol content (as Geraniol).* Not less than 55 percent by weight.

(2) *Aldehyde content (as Citronellal).* Not less than 7 percent by weight.

(3) *Refractive index at 20 °C.* 1.4790 to 1.4850.

(4) *Specific gravity at 25 °/25 °C.* 0.891 to 0.904.

(5) *Odor.* Characteristic odor.

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

§ 21.106 Diethyl phthalate.

(a) *Refractive index at 25 °C.* 1.497 to 1.502.

(b) *Color.* Colorless.

(c) *Odor.* Practically odorless.

(d) *Solubility.* Soluble in 20 parts of 60 percent alcohol.