

§ 21.107

(e) *Specific gravity at 25 °/25 °C.* 1.115 to 1.118.

(f) *Ester content (as diethyl phthalate).* Not less than 99 percent by weight.

NOTE. The sample taken for ester determination should be approximately 0.8 gram. The number of ml of 0.5 N potassium hydroxide used in saponification multiplied by 0.05555 indicates the number of grams of ester in the sample taken for assay.

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

§ 21.107 Ethyl acetate.

(a) *85 percent ester:*

(1) *Acidity (as acetic acid).* Not more than 0.015 percent by weight.

(2) *Color.* Colorless.

(3) *Odor.* Characteristic odor.

(4) *Ester content.* Not less than 85 percent by weight.

(5) *Specific gravity at 20 °/20 °C.* Not less than 0.882.

(6) *Distillation range.* (For applicable ASTM method, see 1980 Annual Book of ASTM Standards, Part 29, page 70, Standard No. D 302-58 (1975); for incorporation by reference, see § 21.6(b).) When 100 ml of ethyl acetate are distilled by this method, none shall distill below 70 °C., not more than 10 ml shall distill below 72 °C., and none above 80 °C.

(b) *100 percent ester:*

(1) *Acidity (as acetic acid).* Not more than 0.010 percent by weight.

(2) *Color.* Colorless.

(3) *Odor.* Characteristic odor.

(4) *Ester content.* Not less than 99 percent by weight.

(5) *Specific gravity at 20 °/20 °C.* Not less than 0.899.

(6) *Distillation range.* (For applicable ASTM method, see 1980 Annual Book of ASTM Standards, Part 29, page 433, Standard No. D 3127-77; for incorporation by reference, see § 21.6(b).) When 100 ml of ethyl acetate are distilled by this method, not more than 2 ml shall distill below 75 °C., and none above 80 °C. (760 mm).

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

§ 21.108 Ethyl ether.

(a) *Odor.* Characteristic odor.

27 CFR Ch. I (4-1-04 Edition)

(b) *Specific gravity at 15.56 °/15.56 °C.* Not more than 0.728.

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

§ 21.109 Gasoline.

(a) *Distillation range.* When 100 ml of gasoline are distilled, none shall distill below 90 °F. Not more than 5 ml shall be collected below 140 °F., and not less than 50 ml shall distill below 230 °F.

(b) *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]

§ 21.110 Gasoline, unleaded.

Conforms to specifications as established by the American Society for Testing and Materials (ASTM) in the 1980 Annual Book of ASTM Standards, Part 23, page 229, Standard No. D 439-79. Any of the "seasonal and geographical" volatility classes for unleaded gasoline are considered suitable as a denaturant. (For incorporation by reference, see § 21.6(b).)

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

§ 21.111 Gentian violet.

(a) Gentian violet (methyl violet, methylrosaniline chloride) occurs as a dark green powder or crystals having metallic luster.

(b) *Arsenic content.* Not more than 15 ppm. (as As₂O₃) as determined by the applicable U.S.P. method.

(c) *Identification test.* Sprinkle about 1 mg of sample on 1 ml of sulfuric acid; it dissolves in the acid with an orange or brown-red color. When this solution is diluted cautiously with water, the color changes to brown, then to green, and finally to blue.

(d) *Insoluble matter.* Not to exceed 0.25 percent when tested by the following method:

Transfer 1.0 gram of sample to a 150 ml beaker containing 50 ml of alcohol. Stir to complete solution and filter through a weighed Whatman No. 4 filter paper. Wash residue with small amounts of alcohol totaling about 50 ml. Dry paper in oven for 30 minutes at

80 °C. and weigh. Calculate insoluble material.

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

§21.112 Heptane.

(a) *Distillation range.* No distillate should come over below 200 °F. and none above 211 °F.

(b) *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]

§21.113 Isopropyl alcohol.

Specific gravity at 15.56 °/15.56 °C. 0.810 maximum.

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

§21.114 Kerosene.

(a) *Distillation range.* (For applicable ASTM method, see 1980 Annual Book of ASTM Standards, Part 25, page 395, Standard No. D 3699-78 for burner fuel; see Part 23, page 849, Standard Nos. D 1655-80a for aviation turbine fuels and D 86-78 for distillation of petroleum products; for incorporation by reference, see §21.6(b).) No distillate should come over below 340 °F. and none above 570 °F.

(b) *Flash point.* 115 °F. minimum.

(c) *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]

§21.115 Kerosene (deodorized).

(a) *Distillation range.* No distillate should come over below 340 °F. and none above 570 °F.

(b) *Flash point.* 155 °F. minimum.

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

§21.116 Methyl alcohol.

Specific gravity at 15.56 °/15.56 °C. 0.810 maximum.

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

§21.117 Methyl isobutyl ketone.

(a) *Acidity (as acetic acid).* 0.02 percent by weight, maximum.

(b) *Color.* Colorless.

(c) *Distillation range.* (For applicable ASTM method, see 1980 Annual Book of ASTM Standards, Part 29, page 147, Standard No. D 1153-77; for incorporation by reference, see §21.6(b).) No distillate should come over below 111 °C. and none above 117 °C.

(d) *Odor.* Characteristic odor.

(e) *Specific gravity at 20 °/20 °C.* 0.799 to 0.804.

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

§21.118 Methyl n-butyl ketone.

(a) *Acidity (as acetic acid).* 0.02 percent by weight, maximum.

(b) *Color.* Colorless.

(c) *Odor.* Characteristic odor.

(d) *Refractive index at 20 °C.* 1.396 to 1.404.

(e) *Specific gravity at 20 °/20 °C.* 0.800 to 0.835.

(f) *Distillation range.* No distillate should come over below 123 °C. and none above 129 °C.

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

§21.119 Nicotine solution.

(a) *Composition.* Five gallons of an aqueous solution containing 40 percent nicotine; 3.6 avoirdupois ounces of methylene blue, U.S.P.; water sufficient to make 100 gallons.

(b) *Color.* One ml of the nicotine solution (previously agitated in the presence of air) is measured into 100 ml of water and thoroughly mixed. Fifty ml of this colored solution is compared, using Nessler tubes, with 50 ml of a standard color solution containing 5 grams of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$, C.P. in 100 ml of water. The color intensity of the solution tested should be equal to or greater than that of the standard solution.

(c) *Nicotine content.* The above solution must contain not less than 1.88 percent of nicotine determined by the following process: 20 ml of the solution are measured into a 500 ml Kjeldahl flask provided with a suitable bulb tube, 50 ml of 0.1 N NaOH added and the