

§21.161

DENATURANTS AUTHORIZED FOR COMPLETELY DENATURED ALCOHOL (C.D.A.), SPECIALLY DENATURED ALCOHOL (S.D.A.), AND SPECIALLY DENATURED RUM (S.D.R.)—Continued

Acetone, U.S.P	S.D.A. 23-A, 23-H.
Acetaldo	C.D.A. 18.
Alkylate	C.D.A. 20.
Almond oil, bitter, N.F.X	S.D.A. 38-B.
Alpha Terpineol	S.D.A. 38-B.
Ammonia, aqueous	S.D.A. 36.
Ammonia solution, strong, N.F. ...	S.D.A. 36.
Anethole, N.F.	S.D.A. 38-B.
Anise oil, N.F.	S.D.A. 38-B.
Bay oil (myrcia oil), N.F.XI	S.D.A. 38-B, 39-D.
Benzaldehyde, N.F.	S.D.A. 38-B.
Bergamot oil, N.F.XI	S.D.A. 38-B.
Boric acid, N.F.	S.D.A. 38-F.
Brucine alkaloid	S.D.A. 40.
Brucine sulfate, N.F.IX	S.D.A. 40.
<i>n</i> -Butyl alcohol	S.D.A. 44.
<i>tert</i> -Butyl alcohol	S.D.A. 39-B, 40, 40-A, 40-B, 40-C.
Camphor, U.S.P	S.D.A. 38-B.
Caustic soda, liquid	S.D.A. 36.
Cedar leaf oil, U.S.P.XIII	S.D.A. 38-B.
Chlorothymol, N.F.XII	S.D.A. 38-B, 38-F.
Cinnamic aldehyde (cinnamaldehyde), N.F.IX.	S.D.A. 38-B.
Cinnamon oil, N.F.	S.D.A. 38-B.
Citronella oil, natural	S.D.A. 38-B.
Clove oil, N.F.	S.D.A. 38-B.
Coal tar, U.S.P	S.D.A. 38-B.
Corrmint oil	S.D.A. 38-B.
Cyclohexane	S.D.A. 3-A.
Denatonium benzoate, N.F.	S.D.A. 1, 40-B.
Diethyl phthalate	S.D.A. 39-B, 39-C.
Distilled lime oil	S.D.A. 38-B.
Ethyl acetate	C.D.A. 35; S.D.A. 29, 35-A.
Ethyl ether	S.D.A. 13-A, 19, 32.
Ethyl tertiary butyl ether	C.D.A. 20.
Eucalyptol, N.F.XII	S.D.A. 37, 38-B.
Eucalyptus oil, N.F.	S.D.A. 38-B.
Eugenol, U.S.P	S.D.A. 38-B.
Formaldehyde solution, U.S.P.	S.D.A. 38-D.
Gasoline	C.D.A. 18, 19; S.D.A. 28-A.
Gasoline, unleaded	C.D.A. 18, 19, 20; S.D.A. 28-A.
Glycerin (Glycerol), U.S.P	S.D.A. 31-A.
Green soap, U.S.P	S.D.A.
Guaiacol, N.F.X	S.D.A. 38-B.
Heptane	C.D.A. 18, 19; S.D.A. 2-B, 28-A.
Hexane	S.D.A. 2-B.
<i>n</i> -Hexane	S.D.A. 2-B.
High octane denaturant blend	C.D.A. 20.
Hydrochloric acid, N.F.	S.D.A. 38-F.
Iodine, U.S.P	S.D.A. 25, 25-A.
Isopropyl alcohol	S.D.A. 3-C.
Kerosene	C.D.A. 18, 19, 20.
Kerosene (deodorized)	C.D.A. 18, 19, 20.
L(-)-Carvone	S.D.A. 38-B.
Lavender oil, N.F.	S.D.A. 38-B.
Lemon oil	S.D.A. 38-B.
Menthol, U.S.P	S.D.A. 37, 38-B, 38-D, 38-F.
Methyl alcohol	S.D.A. 1, 3-A, 30.
Methylene blue, U.S.P	S.D.A. 4; S.D.R. 4.
Methyl isobutyl ketone	C.D.A. 18, 19; S.D.A. 1, 23-H.
Methyl <i>n</i> -butyl ketone	C.D.A. 18, 19; S.D.A. 1.
Methyl salicylate, N.F.	S.D.A. 38-B.
Methyl tertiary butyl ether	C.D.A. 20.

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Mustard oil, volatile (allyl isothiocyanate), U.S.P.XII.	S.D.A. 38-B.
Naphtha	C.D.A. 20.
Natural gasoline	C.D.A. 20.
Nicotine solution	S.D.A. 4; S.D.R. 4.
Nitropropane, mixed isomers of	C.D.A. 18, 19; S.D.A. 1.
Peppermint oil, N.F.	S.D.A. 38-B.
Peppermint oil, terpeneless	S.D.A. 38-B.
Phenol, U.S.P	S.D.A. 38-B.
Phenyl salicylate (salol), N.F.XI	S.D.A. 38-B.
Pine needle oil, dwarf, N.F.	S.D.A. 38-B.
Pine oil, N.F.	S.D.A. 38-B.
Poloxamer 407, N.F.	S.D.A. 38-F.
Polysorbate 80, N.F.	S.D.A. 38-F.
Potassium hydroxide	S.D.A. 36.
Potassium iodide, U.S.P	S.D.A. 25, 25-A.
Pyronate	C.D.A. 18.
Quassin	S.D.A. 40.
Quinine bisulfate, N.F.XI	S.D.A. 39-D.
Quinine sulfate, U.S.P	S.D.A. 39-D.
Raffinate	C.D.A. 20.
Rosemary oil, N.F. XII	S.D.A. 38-B.
Rubber hydrocarbon solvent	C.D.A. 18, 19, 20; S.D.A. 2-B, 28-A.
Safrole	S.D.A. 38-B.
Sassafras oil, N.F.XI	S.D.A. 38-B.
Shellac (refined)	S.D.A. 45.
Soap, hard, N.F.XI	S.D.A. 31-A.
Sodium iodide, U.S.P	S.D.A. 25, 25-A.
Sodium salicylate, U.S.P	S.D.A. 39-D.
Spearmint oil, N.F.	S.D.A. 38-B.
Spearmint oil, terpeneless	S.D.A. 38-B.
Spike lavender oil, natural	S.D.A. 38-B.
Storax, U.S.P	S.D.A. 38-B.
Straight run gasoline	C.D.A. 20.
Sucrose octaacetate	S.D.A. 40-A.
Thyme oil, N.F.XII	S.D.A. 38-B.
Thymol, N.F.	S.D.A. 37, 38-B, 38-F.
Tolu balsam, U.S.P	S.D.A. 38-B.
Toluene	C.D.A. 12-A; S.D.A. 2-B.
Turpentine oil, N.F.XI	S.D.A. 38-B.
Vinegar	S.D.A. 18.
Zinc chloride, U.S.P	S.D.A. 38-F.

[T.D. ATF-133, 48 FR 24673, June 2, 1983, as amended by T.D. ATF-442, 66 FR 12854, Mar. 1, 2001; T.D. TTB-140, 81 FR 59463, Aug. 30, 2016]

Subpart H—Weights and Specific Gravities of Specially Denatured Alcohol

§21.161 Weights and specific gravities of specially denatured alcohol.

The weight of one gallon of each formula of specially denatured alcohol at 15.56 °C. (60 °F.) is as listed in this section. The specific gravity of each formula of specially denatured alcohol at 15.56 °C./15.56 °C. (60 °F./60 °F.) in air is as listed in this section. (Weight of 1 gallon of water at 15.56 °C. (60 °F.) is 8.32823 pounds in air.)

Alcohol and Tobacco Tax and Trade Bureau, Treasury

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WEIGHTS AND SPECIFIC GRAVITIES OF SPECIALLY DENATURED ALCOHOL ¹

[Slight deviations from this table may occur due to variations in specific gravities of authorized denaturants. Values for 190 proof determined experimentally in air. Other values calculated from these gravities.]

S.D.A. Formula No.	Finished formula (gals)	190 proof		192 proof		200 proof	
		Wt./gal. in air (lbs)	Sp. gr. in air	Wt./gal. in air (lbs)	Sp. gr. in air	Wt./gal. in air (lbs)	Sp. gr. in air
1	104.0	6.788	0.8151	6.756	0.8112	6.611	0.7938
2-B	100.5	6.795	.8159	6.762	.8119	6.612	.7939
3-A	105.0	6.787	.8149	6.755	.8111	6.611	.7938
3-C	105.0	6.784	.8146	6.752	.8107	6.608	.7935
4	100.8	6.823	.8193	6.791	.8154	6.640	.7973
13-A	109.7	6.740	.8093	6.710	.8057	6.572	.7891
18	195.4	7.802	.9368	7.785	.9348	7.708	.9255
19	197.9	6.468	.7766	6.452	.7747	6.375	.7655
23-A	107.9	6.788	.8151	6.758	.8115	6.619	.7948
23-H	109.45	6.785	.8147	6.755	.8111	6.617	.7945
25	100.9	7.080	.8501	7.047	.8462	6.897	.8282
25 ²	100.9	7.083	.8505	7.050	.8465	6.900	.8285
25-A	102.5	7.119	.8548	7.087	.8510	6.939	.8332
25-A ²	102.5	7.117	.8546	7.085	.8507	6.938	.8331
28-A	101.0	6.786	.8148	6.753	.8109	6.603	.7929
29	100.76	6.808	.8175	6.775	.8135	6.624	.7954
30	110.0	6.785	.8147	6.755	.8111	6.617	.7945
31-A	111.5	7.167	.8606	7.138	.8571	7.002	.8408
32	104.8	6.769	.8128	6.737	.8089	6.593	.7916
35-A ³	105.0	6.817	.8185	6.785	.8147	6.641	.7974
35-A ⁴	104.25	6.826	.8196	6.794	.8158	6.649	.7984
36	102.7	6.837	.8209	6.804	.8170	6.657	.7993
37	100.9	6.794	.8158	6.762	.8119	6.612	.7939
38-B	101.3	6.804	.8170	6.772	.8131	6.622	.7951
38-D	102.7	6.863	.8241	6.830	.8201	6.682	.8023
38-F	100.9	6.828	.8199	6.796	.8160	6.646	.7980
39-B	102.7	6.857	.8233	6.825	.8195	6.677	.8017
39-C	101.0	6.819	.8188	6.792	.8155	6.642	.7975
39-D	101.3	6.819	.8188	6.787	.8149	6.637	.7969
40	100.1	6.795	.8159	6.762	.8119	6.611	.7938
40-A	100.2	6.798	.8163	6.765	.8123	6.613	.7941
40-B	100.1	6.794	.8158	6.761	.8118	6.610	.7937
40-C	103.0	6.788	.8151	6.756	.8112	6.609	.7936
44	110.0	6.790	.8153	6.760	.8117	6.622	.7951
45	129.8	7.545	.9060	7.520	.9030	7.403	.8889

¹Where alternate denaturants are permitted, the above weights are based on the first denaturant or combination listed in the formula.

²With sodium iodide.

³Calculated on the basis of 85 percent ethyl acetate.

⁴Calculated on the basis of 100 percent ethyl acetate.

[T.D. ATF-133, 48 FR 24673, June 2, 1983, as amended by T.D. TTB-140, 81 FR 59463, Aug. 30, 2016]

PART 22—DISTRIBUTION AND USE OF TAX-FREE ALCOHOL

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