

USES OF SPECIALLY DENATURED ALCOHOL<sup>1</sup>—  
Continued

Product or process	Code No.	Formulas authorized
Shampoos .....	141	1, 3-A, 3-B, 3-C, 23-A, 27-B, 31-A, 36, 38-B, 39-A, 39-B, 40, 40-A, 40-B, 40-C.
Shellac coatings .....	013	1, 23-A.
Soaps, industrial .....	440	1, 3-A, 3-C, 23-A, 30.
Soaps, toilet .....	142	1, 3-A, 3-C, 23-A, 30, 36, 38-B, 39-B, 39-C, 40, 40-A, 40-B, 40-C.
Sodium ethylate, anhydrous (restricted).	524	2-B.
Sodium hydrosulfite (dehydration).	312	1, 2-B, 3-A, 3-C.
Soldering flux .....	035	1, 3-A, 3-C, 23-A, 30.
Solutions, miscellaneous.	485	1, 3-A, 3-C, 23-A, 30, 40-C.
Solvents and thinners (other than proprietary solvents or special industrial solvents).	042	1, 23-A, 30.
Solvents, special (restricted sale).	043	1, 3-A, 3-C.
Stains (wood) .....	053	1, 3-A, 3-C, 23-A, 30.
Sterilizing solutions .....	430	1, 3-A, 3-C, 12-A, 13-A, 22, 23-A, 30, 32, 37, 38-B, 42, 44.
Theater sprays .....	470	3-A, 3-C, 22, 37, 38-B, 39-B, 39-C, 40, 40-A, 40-B, 40-C.
Tobacco sprays and flavors.	460	4.
Toilet waters .....	122	38-B, 39, 39-A, 39-B, 39-C, 40, 40-A, 40-B, 40-C.
Transparent sheetings ..	032	1, 2-B, 3-A, 3-C, 13-A, 23-A.
Unclassified uses <sup>2</sup> .....	900	1, 3-A, 3-C.
Vaccine (processing) ....	343	1, 2-B, 3-A, 3-C, 12-A, 13-A, 23-A, 30, 32, 35-A.
Vinegar .....	511	18, 29, 35-A.
Vitamins (processing) ...	342	1, 2-B, 3-A, 3-C, 12-A, 13-A, 23-A, 30, 32, 35-A.
Xanthates .....	573	1, 2-B, 29.
Yeast (processing) .....	342	1, 2-B, 3-A, 3-C, 12-A, 13-A, 23-A, 30, 32, 35-A.

<sup>1</sup>Other products or processes may be authorized under § 21.31(c).

<sup>2</sup>Persons desiring other formulas for this use should indicate the fact in the space provided for this purpose on TTB Form 5150.19.

[T.D. ATF-133, 48 FR 24673, June 2, 1983, as amended by T.D. ATF-199, 50 FR 9183, Mar. 6, 1985; T.D. ATF-435, 66 FR 5475, Jan. 19, 2001; T.D. ATF-442, 66 FR 11854, Mar. 1, 2001]

**Subpart G—Denaturants  
Authorized for Denatured Spirits**

**§ 21.151 List of denaturants authorized for denatured spirits.**

Following is an alphabetical listing of denaturants authorized for use in denatured spirits:

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

Acetaldehyde .....	S.D.A. 29.
Acetone, U.S.P .....	S.D.A. 23-A, 23-H.
Acetaldol .....	C.D.A. 18.
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. 23-F, 38-B, 39-D.
Benzaldehyde, N.F .....	S.D.A. 38-B.
Benzene .....	S.D.A. 2-B, 2-C, 12-A.
Bergamot oil, N.F.XI .....	S.D.A. 23-F, 38-B.
Bone oil (Dipple's oil) .....	S.D.A. 17.
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, 39-A, 39-B, 40, 40-A, 40-B, 40-C.
Camphor, U.S.P .....	S.D.A. 27, 27-A, 38-B.
Caustic soda, liquid .....	S.D.A. 36.
Cedar leaf oil, U.S.P.XIII .....	S.D.A. 38-B.
Chloroform .....	S.D.A. 20.
Chlorothymol, N.F.XII .....	S.D.A. 38-B, 38-F.
Cinchonidine .....	S.D.A. 39-A.
Cinchonidine sulfate, N.F.IX .....	S.D.A. 39-A.
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. 27-A, 38-B.
Coal tar, U.S.P .....	S.D.A. 38-B.
Denatonium benzoate, N.F. ....	S.D.A. 1, 40-B.
Diethyl phthalate .....	S.D.A. 39-B, 39-C.
Ethyl acetate .....	S.D.A. 29, 35, 35-A.
Ethyl ether .....	S.D.A. 13-A, 19, 32.
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. 22, 38-C, 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.
Gentian violet .....	S.D.A. 33.
Gentian violet, U.S.P .....	S.D.A. 33.
Glycerin (Glycerol), U.S.P .....	S.D.A. 31-A.
Green soap, U.S.P .....	S.D.A. 27-B.
Guaiaicol, N.F.X .....	S.D.A. 38-B.
Heptane .....	C.D.A. 18, 19; S.D.A. 2-B, 28-A.
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.
Lavender oil, N.F .....	S.D.A. 27-B, 38-B.
Menthol, U.S.P .....	S.D.A. 37, 38-B, 38-C, 38-D, 38-F.

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

Mercuric iodide, red, N.F.XI .....	S.D.A. 42.
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, 46.
Mustard oil, volatile (allyl isothiocyanate), U.S.P.XII .....	S.D.A. 38–B.
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.
Phenol, U.S.P .....	S.D.A. 38–B, 46.
Phenyl mercuric benzoate .....	S.D.A. 42.
Phenyl mercuric chloride, N.F.IX .....	S.D.A. 42.
Phenyl mercuric nitrate, N.F .....	S.D.A. 42.
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.
Pine tar, U.S.P .....	S.D.A. 3–B.
Polysorbate 80, N.F .....	S.D.A. 38–F.
Potassium iodide, U.S.P .....	S.D.A. 25, 25–A, 42.
Pyridine bases .....	S.D.A. 6–B.
Pyronate .....	C.D.A. 18.
Quassia, fluid extract, N.F.VII ...	S.D.A. 39.
Quassin .....	S.D.A. 40.
Quinine, N.F.X .....	S.D.A. 39–A.
Quinine bisulfate, N.F.XI .....	S.D.A. 39–A, 39–D.
Quinine dihydrochloride, N.F.XI .....	S.D.A. 39–A.
Quinine sulfate, U.S.P .....	S.D.A. 39–D.
Resorcinol (Resorcin), U.S.P .....	S.D.A. 23–F.
Rosemary oil, N.F. XII .....	S.D.A. 27, 38–B.
Rubber hydrocarbon solvent .....	C.D.A. 18, 19, 20; S.D.A. 2–B, 2–C, 28–A.
Safrole .....	S.D.A. 38–B.
Salicylic acid, U.S.P .....	S.D.A. 23–F, 39.
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, metallic .....	S.D.A. 2–C.

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

Sodium salicylate, U.S.P .....	S.D.A. 39, 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.
Sucrose octaacetate .....	S.D.A. 40–A.
Thimerosal, U.S.P .....	S.D.A. 42.
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 .....	S.D.A. 2–B, 2–C, 12–A.
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]

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.)

WEIGHTS AND SPECIFIC GRAVITIES OF SPECIALLY DENATURED ALCOHOL <sup>1</sup>

[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
2–C .....	99.5	.....	.....	.....	.....	6.959	.8356
3–A .....	105.0	6.787	.8149	6.755	.8111	6.611	.7938
3–B .....	101.0	6.810	.8177	6.777	.8137	6.627	.7957
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
6–B .....	100.5	6.801	.8166	6.768	.8127	6.618	.7947
12–A .....	105.0	6.820	.8189	6.789	.8152	6.645	.7979
13–A .....	109.7	6.740	.8093	6.710	.8057	6.572	.7891
17 .....	100.05	6.795	.8159	6.762	.8119	6.611	.7938
18 .....	195.4	7.802	.9368	7.785	.9348	7.708	.9255
19 .....	197.9	6.468	.7766	6.452	.7747	6.375	.7655
20 .....	104.9	7.062	.8480	7.030	.8441	6.886	.8268
22 .....	109.5	7.037	.8450	7.007	.8414	6.868	.8247
23–A .....	107.9	6.788	.8151	6.758	.8115	6.619	.7948
23–F .....	101.5	6.808	.8175	6.776	.8136	6.627	.7957
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 <sup>2</sup> .....	100.9	7.083	.8505	7.050	.8465	6.900	.8285