Loss Prevention Bulletin
No. 36.10

PROPERTIES

OF

FLAMMABLE LIQUIDS, GASES AND SOLIDS

FACTORY MUTUAL ENGINEERING DIVISION

Main Office: 184 High St., Boston 10, Mass.

PROPERTIES OF FLAMMABLE LIQUIDS, GASES, AND SOLIDS

This bulletin gives pertinent data concerning the fire and explosion hazards of flammable liquids, gases, and solids found in industrial plants. The table in this edition includes more than 200 materials not previously listed as well as additional data on previous listings. Values presented are for information and general guidance only and are not to be regarded as official standards.

The data on flash points, auto-ignition temperatures and susceptibility to spontaneous heating has been assembled mostly from the results of tests made by the Factory Mutual Laboratories. Most of the data on explosive ranges was obtained from publications of the Bureau of Mines, but some material was obtained from other sources. Data on boiling points, melting points, and specific gravities were obtained from publications of Carbide & Carbon Chemicals Corp., E. I. du Pont de Nemours & Co., Commercial Solvents Corp., U. S. Industrial Chemicals, Inc., Dow Chemical Co., Sharples Solvents Corp., the International Critical Tables, the Condensed Chemical Dictionary, 1942 edition, and tests made in the Factory Mutual Laboratories. Samples for test purposes were furnished by the listed companies, by plants insured in the Factory Mutuals, and others. Grateful acknowledgment is made to all contributors for adding to the completeness and reliability of the table.

Minor variations in flash point, auto-ignition and explosive range figures are to be expected even among most competent observers. Purity of samples tested may be responsible for considerable differences in reported results. In most cases such minor variations have little practical significance. In case of difference of opinion as to fire hazard characteristics of any specific compound, tests should be made from a sample of the particular compound in question. The facilities of the Factory Mutual Laboratories are available to Factory Mutual insured plants for such purposes.

Characteristics of Flammable Liquids

The use of flammable liquids in industrial plants introduces a serious life and fire hazard. It is important to segregate processes involving such liquids and to provide reasonable safeguards. Machinery and piping should be properly installed, adequately maintained, and intelligently operated.

When new installations or changes involving flammable liquids are planned, consult your Insurance Company in advance, and submit detailed plans for comment and approval. This procedure will not only avoid the possibility of expensive changes to reduce life and fire hazards after completing the work but may forestall the costly installation of some safeguards which happen to be unnecessary. State and municipal regulations and ordinances should be observed.

A flammable liquid itself does not burn; it is the vapors from the liquid which burn. The rate at which different liquids vaporize varies greatly, depending on their vapor pressure. Vaporization increases with the temperature, and a flammable liquid at elevated temperature is therefore more hazardous than the same liquid at normal temperature.

Flash Point

The flash point of a flammable liquid is the lowest temperature at which it gives off enough vapors to form a flammable or ignitible mixture with air near the surface of the liquid or within the container used. Many hazardous liquids have flash points at or below ordinary room temperatures, and they normally are covered by a layer of flammable vapors which will ignite immediately if a source of ignition is brought near.

Both closed and open cup test results are reported. The open cup flash point is usually somewhat higher than the closed cup flash point for the same substance.

Fire Point

The lowest temperature at which a liquid in an open container will give off enough vapors to continue to burn when once ignited is the fire point. It is generally slightly above the open cup flash point.

Explosive Range (Flammability Limits)

The explosive range includes all concentrations of a mixture of flammable vapor or gas in air (usually expressed in per cent by volume) in which a flash will occur or a flame will travel if the mixture is ignited. The lowest percentage at which this occurs is the lower explosive limit, and the highest percentage, the upper explosive limit. If such a mixture is confined and ignited, an explosion results. Many common flammable liquids and gases have very wide explosive ranges. That of carbon disulfide is 1% to 50% and hydrogen 4.1% to 74.2%, which shows that only very lean or unusually rich mixtures of these materials in air are free from an explosion hazard.

The explosive ranges in the table are based upon normal atmospheric temperatures and pressures. There may be considerable variations in explosive ranges at pressures or temperatures above or below normal.

Auto-Ignition Temperature

The auto-ignition temperature of a substance whether solid, liquid, or gaseous, is the lowest temperature required to initiate or cause self-sustained combustion in the absence of a spark or flame. This temperature varies considerably, depending upon the nature, size, and shape of the igniting surface or container and other factors. The auto-ignition temperature of a solid is influenced by its physical condition and the rate of heating. Vapors of several common flammable liquids can be ignited under favorable conditions by metals heated to temperatures as low as 500°F. The vapor of carbon disulfide can be so ignited at a temperature of about 257°F.

Susceptibility to Spontaneous Heating

Many flammable liquids combine readily with the oxygen in the air at ordinary temperatures and give off heat. When these liquids are present on waste, rubbish, or other material under conditions in which heat is produced faster than it is dissipated, the temperature rises and ignition may occur.

Specific Gravity

Most flammable liquids will float on water where they can burn freely and flow over a large area. A few are heavier than water, and water will float on them and extinguish a fire. The specific gravity of a flammable liquid is important, as it indicates the proper type of fire extinguisher, the need of overflow drains on open tanks of flammable liquids, and the necessity of other special precautions.

Vapor Density

Vapor density is the relative density of the vapor as compared with air. The vapors of all flammable liquids are heavier than air. This explains why flash fires in flammable vapors often cover large areas and travel long distances along the floor or ground, and shows that ventilating outlets should be located near the floor level.

Many combustible gases by contrast are lighter than air and require ventilation taken from near the ceiling.

Melting Point

The melting point is important in those materials which are solid at ordinary temperature but assume the characteristics of flammable liquids when in the melted state, such as naphthalene, tallow, and similar substances.

Boiling Point

The lower the boiling point, the more volatile and therefore the more hazardous a flammable liquid.

Miscibility with Water

A flammable liquid's miscibility, or ability to mix with water, is important since the flash and fire points of a flammable liquid are appreciably raised as the amount of water in the mixture is increased. It is possible to make flammable liquids such as alcohol and acetone, which are miscible with water, entirely non-flammable by sufficient dilution. These water mixtures are conductors of electricity, and charges of static electricity cannot accumulate in flammable liquids miscible with water.

Viscosity

Viscosity is definitely related to the fire hazard of flammable liquids because viscous liquids spread slowly when liberated, and fires in them generally burn in a much smaller area than in equal volumes of free-flowing, less viscous liquids.

EXPLANATION OF TABLE

The following test procedures have been used by the Factory Mutual Laboratories:

Flash Point, Tagliabue
Closed Cup.....A.S.T.M. Designation D56-36
Flash Point, Pensky-Martens
Closed Cup.....A.S.T.M. Designation D93-46
Flash Point, Cleveland
Open Cup.....A.S.T.M. Designation D92-46
Auto-Ignition Temperature.....A.S.T.M. Designation D286-36
Susceptibility to Spontaneous Heating..Factory Mutual Modified Mackey Method
(I. & E. Chem., Vol. 19, No. 3, p. 394, March 1927)

ABBREVIATIONS AND SYMBOLS

The following abbreviations are not used in the alphabetical listing but are shown with some names to identify the compound exactly.

o — ortho	p — para	
m — meta	prim — primary	sym — symmetrical
n — normal	sec — secondary	ter — tertiary

The numerical prefixes mono-, di-, tri-, and tetra- will be found in regular alphabetical order.

d. — decomposes	sub. — sublimes
> — greater than	< — less than

*An asterisk following the name of a metal indicates that hydrogen will be liberated when the metal is in contact with water. With the exception of potassium and sodium, hydrogen will be liberated in hazardous quantities only if the metal is in a finely divided form.

The properties of asphalts, naphthas, oils, fats, and waxes vary over a large range as indicated. When it is necessary to know the exact hazard of a material, a sample should be sent to the Factory Mutual Laboratories at 184 High St., Boston 10, Mass., for test.

Flash Point. The approximate closed-cup flash points of hydrocarbons (organic compounds composed of only carbon and hydrogen) may be determined by the use of the following formula:

Closed cup flash point °F. = 0.73 x [initial] boiling point °F. − 122

For petroleum and coal-tar distillates, the formula is applicable in practice between initial boiling points of 100°F.–550°F.

Explosive Limits. The data given for the lower and upper explosive limits are, with few exceptions, the values for upward flame propagation through a cylindrical tube at normal atmospheric pressures and temperatures.

Vapor Concentrations and Explosive Mixtures. The following calculations can be used to determine the volume of vapor produced by the evaporation of a known solvent and the amount of air required to maintain mixtures below the explosive limit. The computations are based on a temperature of 70°F. and normal atmospheric pressure. In calculating safety ventilation, a large factor of safety should be used because of the difficulty in maintaining close control over the conditions affecting the hazard. Recommended safe practice requires the operation of equipment at not over 25% of the lower explosive limit concentration.

$$\text{Cu. ft. vapor from evaporation of 1 gal. solvent} = \frac{8.33 \times \text{Sp. Gr.}}{0.075 \times \text{V.D.}}$$

8.33 is the weight of 1 gal. of water in lbs.

0.075 is the weight of 1 cu. ft. of air in lbs.

Sp. Gr. is the specific gravity of the solvent (water = 1)

V.D. is the vapor density of the solvent vapor (air = 1)

$$\text{Volume of the leanest explosive mixture} = \frac{\text{cu. ft. vapor} \times 100}{\text{L.E.L.}}$$

L.E.L. is the lower explosive limit of the solvent vapor in air expressed in percent by volume.

Example: Calculate the safety ventilation required for a drier in which 1 gal. of toluene is evaporated per hour.

Toluene has a vapor density of 3.14, a specific gravity of 0.866, and a lower explosive limit of 1.27%.

$$\frac{8.33 \times 0.866}{0.075 \times 3.14} = 30.5 \text{ cu. ft. vapor}$$

$$30.5 \times \frac{100}{1.27} = 2402 \text{ cu. ft. volume of leanest explosive mixture}$$

2402 x 4 = 9608 cu. ft. ventilation needed per gallon of solvent evaporated

For an approximation for the amount of air needed to dilute the vapors from 1 gallon of *common* solvent to the lower explosive limit, 2500 cu. ft. may be used.

Vapor Densities for the most part, have been calculated using the formula:

$$\text{Vapor density of a compound} = \frac{\text{molecular weight of compound}}{29 \text{ (composite molecular weight of air)}}$$

Suitable Extinguishing Agents. The code numbers in the last column indicate the following extinguishing agents.

1. Water (See Note A below)
2. Foam
3. Carbon dioxide or dry chemical
4. See Note B below. (Gas fires.)
5. Approved dry compound for metal fires.

Note A: Water discharged from spray nozzles behaves differently from water discharged from hose streams or from sprinklers discharging relatively large drops. The finely divided drops from a spray nozzle absorb much more heat than an equal weight of water from a hose stream or an equal weight of large drops from a sprinkler. In general, water spray nozzles are suitable for use on fires in flammable liquids having a flash point over 150° F., but before purchasing new equipment, consult your Insurance Company or the Factory Mutual Engineering Division. In many cases, water from automatic sprinklers will control fire in flammable liquids.

If water is applied to a tank of material such as tempering oil or asphalt, the body of which is at a temperature above 250° F., the steam formed under the surface will cause foaming resulting in a rapid increase in the volume of the liquid. Under fire conditions, the tank may be overflowed and the fire spread by this means. Foaming-over may also result from the application of foam since foam is largely water. To avoid foaming-over, specially arranged fixed-piping foam extinguishers are available for use on open tanks containing materials heated above 250° F. Dry chemical extinguishers may also be used and will not cause foaming-over.

Note B: While carbon dioxide, dry chemical, and in some instances, water spray may be used to extinguish small gas fires, the extinguishment of gas fires by these extinguishing agents is not generally recommended since the discharge of gas or volatile liquid will continue unless shut off promptly and may well create a more serious explosion hazard. Generally, the best procedure is to use water to keep the surroundings cool until the leak can be shut off or until the volatile liquid has completely vaporized.

I.C.C. SHIPPING LABELS

Red — Flammable liquids with flash points at or below 80° F. and flammable compressed gases.

Yellow — Flammable solids (except explosives) and oxidizing materials (chlorates, permanganates, peroxides, nitrates).

White — Corrosive liquids (mineral acids).

Green — Non-flammable compressed gases.

Labels are required only for interstate shipments or for intrastate shipments by common carrier engaged in interstate or foreign commerce. Absence of a label does not necessarily mean that the material is non-hazardous.

NAME	SYNONYMS	FORMULA	Flash Point °F.		Explosive Limits % by Vol. in Air		Auto-ignition Temp. °F.	Susceptibility to Spontaneous Heating	Specific Gravity (Water=1.00)	Vapor Density (Air=1.00)	Melting Point °F.	Boiling Point °F.	Suitable Extinguishing Agents
			Closed Cup	Open Cup	Lower	Upper							
Acetal	1, 1-Diethoxyethane	$CH_3CH(OC_2H_5)_2$	-5	....	1.65	...	446	No	0.821	4.08	...	215	3
Acetaldehyde	Ethanal Acetyl Aldehyde	CH_3CHO	-36	....	4.0	57.0	365	No	0.783	1.52	-191	70	1, 3, 4
Acetanilide	Antifebrin	$CH_3CONHC_6H_5$	....	345	...	...	1015	No	1.21	4.65	237	581	1, 3
Acetic Acid (Glacial)	Ethanoic Acid	CH_3COOH	104	110	4.0	...	1050	No	1.05	2.07	62	245	1, 3
Acetic Anhydride	Acetyl Oxide	$(CH_3CO)_2O$	121	130	2.67	10.13	752	No	1.08	3.52	-100	284	1, 3
Acetone	2-Propanone Dimethylketone	CH_3COCH_3	0	15	2.15	13.0	1000	No	0.792	2.00	-137	134	3
Acetonyl Acetone	2, 5 Hexanedione	$CH_3COCH_2CH_2COCH_3$	174	180	...	...	920	No	0.973	3.94	16	378	1, 3
Acetophenone	Phenylmethyl Ketone	$C_6H_5COCH_3$	221	....	...	...	....	No	1.03	4.14	68	396	1, 2, 3
p-Acetotoluide	n-Acetyl-p-Toluidine	$CH_3C_6H_4NHCOCH_3$	335	355	...	...	....	..	1.212	5.14	307	584	1, 2, 3
Acetylacetone	2, 4 Pentanedione	$CH_3COCH_2COCH_3$	93	105	...	...	....	..	0.975	3.45	..	285	1, 3
Acetyl Chloride	Ethanoyl Chloride	CH_3COCl	40	....	...	...	....	No	1.105	2.70	-170	124	1, 3
Acetylene	Ethyne; Ethine	C_2H_2	gas	....	2.5	80	635	No	....	0.91	...	-119	4
Acetyl Peroxide		$(CH_3CO)_2O_2$	....	113	...	...	....	..	1.18	....	....	....	1, 3
Acrolein	Propenal Acrylic Aldehyde	CH_2CHCHO	Inflammable gas		...	...	Unstable	No	0.84	1.94	-66	125	4
Acrylic Acid	Propenic Acid	C_2H_3COOH	....	....	...	...	....	..	1.062	....	54	285	.....
Acrylonitrile	Propenenitrile	CH_2CHCN	....	32	3.05	17.0	898	..	0.800	1.83	-119	171	3
Adipic Acid	Hexanedioic Acid	$COOH(CH_2)_4COOH$	385	....	...	...	....	..	....	5.04	303	700	1, 2, 3
Aldol	3-Hydroxybutanal	$CH_3CHOHCH_2CHO$	181	....	...	...	530	No	1.11	3.04	....	380	1, 3
Allyl Alcohol	2-Propen-1-ol	CH_2CHCH_2OH	70	75	3.0	18	713	No	0.854	2.00	-200	206	3
Allyl Chloride	3-Chloropropene	$CH_2=CHCH_2Cl$	-25	-20	3.28	11.15	737	..	0.937	2.64	...	113	3, 4
Allylene	Propyne	CH_3CCH	gas	....	1.74	...	....	..	....	1.38	-156	-18	4
*Aluminum (Powder)		Al	....	....	...	...	....	No	....	....	...	....	5
2-Amino-1-Butanol		$CH_3CH_2CHNH_2CH_2OH$	....	165	...	...	....	No	0.944	....	28	352	1, 3
2-Aminoethylethanolamine	Hydroxyethyl-Ethylenediamine	$NH_2CH_2CH_2NHCH_2CH_2OH$	265	275	...	...	695	..	1.030	3.59	...	469.4	1, 3
Ammonia (Anhydrous)		NH_3	gas	....	16.0	25.0	1204	No	....	0.587	-107	-37	4
Amyl Acetate-n	1-Pentanol acetate Banana Oil	$CH_3COOC_5H_{11}$	76	80	1.1	...	714	No	0.879	4.49	...	300	3
Amyl Acetate-iso	3-Methyl-1-butanol acetate	$CH_3COOCH_2CH_2CH(CH_3)_2$	77	100	1.0 @ 212°F.	...	715	No	0.876	4.49	...	290	3
Amyl Acetate-sec.		$CH_3COOCH(CH_3)C_3H_7$	89	111	...	...	....	..	0.862	4.48	...	249	3
Amyl Alcohol-n	1-Pentanol; Fusel Oil	$CH_3CH_2CH_2CH_2CH_2OH$	91	120	1.2	...	621	No	0.817	3.04	-108	280	3
Amyl Alcohol-p. iso	3-Methyl-1-Butanol	$(CH_3)_2CHCH_2CH_2OH$	109	115	1.2	...	667	No	0.813	3.04	-178	270	3
Amyl Alcohol-sec.n	3-Pentanol	$(CH_3CH_2)_2CHOH$	94	102	...	...	650-725	No	0.810	3.04	...	245	3
Amyl Alcohol-sec. iso	3-Methyl-2-Butanol	$(CH_3)_2CHCHOHCH_3$	103	...	...	...	....	No	0.819	3.04	...	235	3
Amyl Alcohol-Ter	2-Methyl-2-Butanol	$(CH_3)_2C_2H_5COH$	67	75	...	...	....	..	0.81	3.03	...	215	3
Amylamine, Mono	1-Aminopentane	$C_5H_{11}NH_2$	....	45	...	...	....	..	0.776	3.01	...	215-221	3
Amyl Benzene-mono		$C_6H_5C_5H_{11}$	....	150	...	...	....	..	0.78-0.85	5.11	...	365	1, 2, 3
Amyl Chloride	1-Chloropentane	$CH_3(CH_2)_3CH_2Cl$	....	55	1.4	...	650	No	0.878	3.67	...	223	2, 3
Amyl Chlorides, Mixed		$C_5H_{11}Cl$	....	38	...	...	....	..	0.88	....	...	185-228	2, 3
Amylene-n	Propylethylene	$CH_3(CH_2)_2CH:CH_2$	....	0	1.6	7.70	....	No	0.666	2.42	-191	98	2, 3
Amyl Ether	Diamyl Ether	$C_5H_{11}OC_5H_{11}$	....	135	...	...	....	..	0.78-0.80	5.46	...	329-338	1, 2, 3
Amyl Mercaptans (mixed)		$C_5H_{11}SH$	....	65	...	...	....	..	0.83-0.84	3.59	...	220-257	1, 3
Amyl Naphthalene		$C_{10}H_7C_5H_{11}$	....	225	...	...	....	..	0.973	6.86	<-21	550	2, 3
Amyl Phenol-o		$C_5H_{11}C_6H_4OH$	....	219	...	...	....	..	0.96-0.97	5.66	...	649	1, 2, 3
Amyl Propionate	Pentyl Propanoate	$CH_3CH_2COOC_5H_{11}$	....	106	...	...	....	..	0.869-0.873	5.0	...	275-347	1, 3
Amyl Salicylate		$HOC_6H_4COOC_5H_{11}$	270	....	...	...	....	..	1.065	7.17	...	512	1, 2, 3
Amyl Stearate		$CH_3(CH_2)_{16}COOC_5H_{11}$	....	365	...	...	....	No	0.860	....	...	....	1, 2, 3
Amyl Sulfides (mixed)			....	185	...	...	....	..	0.85-0.91	....	...	338-356	2, 3
Amyl Toluene		$C_5H_{11}C_6H_4CH_3$	....	180	...	...	....	No	0.87	....	...	400-415	.....
Amyl Xylol Ether		$C_5H_{11}OC_6H_3(CH_3)_2$	....	205	...	...	....	No	0.907	....	...	480-500	1, 2, 3
Aniline	Aminobenzene	$C_6H_5NH_2$	168	....	...	...	1418	No	1.022	3.22	21	363	2, 3
Aniline Hydrochloride	Aniline Chloride	$C_6H_5NH_2HCl$	....	380	....	...	....	No	1.22	4.46	388	473	1, 3
Anthracene	Para-Napthalene; Green Oil	$C_6H_4(CH)_2C_6H_4$	250	385	0.63	...	881	No	1.25	6.15	424	644	1, 2, 3
Anthraquinone		$C_6H_4(CO)_2C_6H_4$	365	485	...	...	....	No	1.438	7.16	544	716	1, 2, 3
Asphalt (typical)	Petroleum Pitch		400+	535+	...	...	905	No	0.95-1.1	....	180-220	>700	1, 2, 3
Benzaldehyde	Artificial Almond Oil	C_6H_5CHO	148	165	...	...	377	No	1.05	3.66	-15	355	1, 2, 3
Benzedrine	Amphetamine	$C_9H_{13}N$	....	>80	...	...	....	d	0.931	....	...	392	1, 3
Benzene	Benzol	C_6H_6	12	....	1.4	8	1076	No	0.88	2.77	41	176	2, 3
Benzine	Petroleum Ether	Cn H_{2n+2}	....	<0	1.1	4.8	475	No	0.64	4.5	>-100	100-160	2. 3
Benzoic Acid	Phenylformic Acid	C_6H_5COOH	250	....	...	...	1065	No	1.266	4.21	252	482	1, 3
Benzoyl Chloride	Benzene Carbonyl Chloride	C_6H_5COCl	215	....	...	...	....	..	1.212	4.88	31	387	1, 2, 3
Benzoyl Peroxide	Lucidol (White Granular)	$(C_6H_5CO)_2O_2$	....	....	...	...	d.205	..	....	....	...	....	1
Benzyl Acetate		$CH_3COOCH_2C_6H_5$	216	....	...	...	862	No	1.06	5.17	-80	417	1, 2, 3
Benzyl Alcohol	Phenyl Carbinol	$C_6H_5CH_2OH$	213	220	...	...	817	No	1.04	3.72	5	403	1, 2, 3
Benzyl Benzoate		$C_6H_5COOCH_2C_6H_5$	298	....	...	...	....	No	1.114	7.31	65	614	1, 2, 3
Benzyl Cellosolve	Ethylene Glycol Monobenzyl Ether	$C_6H_5CH_2OCH_2CH_2OH$	....	265	...	...	665	No	1.07	....	...	493	1, 3
Benzyl Chloride	Omega Chlorotoluol	$C_6H_5CH_2Cl$	153	165	1.1	...	....	No	1.103	4.36	-41	349	1, 2, 3
Benzyl Diethylamine		$C_6H_5CH_2N(C_2H_5)_2$	....	170	...	...	....	No	0.89	....	...	405-420	1, 2, 3
Borneol	Borneo Camphor	$C_{10}H_{17}OH$	150	....	...	...	....	No	1.01	5.31	407	Sub. 413	1, 3
Bromobenzene	Phenyl Bromide	C_6H_5Br	149	....	...	...	....	No	1.497	5.41	-23	313	1, 2, 3
Bronze Dust (Aluminum Free)			No Hazard		...	...	....	No	....	....	...	....	.....
Bronzing Liquid			<80 (May Be)	....	...	...	....	..	....	....	...	....	2, 3
Butadiene 1, 3	Erythrene	$CH_2CHCHCH_2$	gas	....	2.0	11.5	842	No	0.621	1.87	-164	24	4
Butadiene Monoxide	Vinylethylene Oxide	$H_2C=CHCHOCH_2$	<-58	....	...	...	....	No	0.869	2.41	...	150.8	3, 4
Butane-n.	Methylethylmethane	C_4H_{10}	-76	gas	1.6	6.5	806	No	0.599	2.046	-211	33	4
Butane-iso	2-Methylpropane	$(CH_3)_2CHCH_3$	-117	....	1.6	8.5	1010	No	0.58	2.01	...	14	4
Butene-1	Ethylethylene	$CH_3CH_2CHCH_2$	-112	gas	...	...	....	..	0.601	1.939	...	20.7	4
Butyl Acetate-n.	Butyl Ethanoate	$CH_3COOC_4H_9$	72	90	1.7	15	790	No	0.88	4.00	-107	260	3
Butyl Acetate-iso.		$CH_3COOCH_2CH(CH_3)_2$	64	....	...	...	....	No	0.871	4.00	-148	244	3
Butyl Acetate-sec.	2-Butanol Acetate	$CH_3COOCH(CH_3)(C_2H_5)$	....	88	1.7	...	....	..	0.858	....	...	221	3
Butyl Acetyl Ricinoleate		$C_{17}H_{32}(OCOCH_3)(COOC_4H_9)$	....	230	...	...	725	..	0.940	....	-25	428	1, 2, 3
Butyl Alcohol-n.	1-Butanol	$CH_3CH_2CH_2CH_2OH$	84	110	1.7	...	693	No	0.806	2.55	-120	243	1, 3
Butyl Alcohol-iso.	2-Methylpropanol-1	$(CH_3)_2CHCH_2OH$	82	105	1.68	...	825	No	0.805	2.55	-162	225	1, 3
Butyl Alcohol-sec.	2-Butanol; Methylethylcarbinol	$CH_3CH_2CHOHCH_3$	75	....	...	...	....	..	0.808-.0812	2.55	...	201	1, 3
Butyl Alcohol-ter	2-Methyl-2-Propanol	$(CH_3)_3COHCH_3$	52	....	2.35	8.0	901	No	0.786	2.55	77	181	1, 3
Butylamine	1-Aminobutane	$CH_3(CH_2)_3NH_2$	<40	....	...	...	....	..	0.74-0.76	2.52	...	172	3

NAME	SYNONYMS	FORMULA	Flash Point °F.		Explosive Limits % by Vol. in Air		Auto-ignition Temp. °F.	Susceptibility to Spontaneous Heating	Specific Gravity (Water=1.00)	Vapor Density (Air=1.00)	Melting Point °F.	Boiling Point °F.	Suitable Extinguishing Agents
			Closed Cup	Open Cup	Lower	Upper							
Butylamine-iso.	1-Amino-2-Methyl-propane	$(CH_3)_2CHCH_2NH_2$	15	....	...	...	....	No	0.733	....	...	150	3
Butylamine Oleate, Mono		$C_{17}H_{33}COONH_3C_4H_9$	....	150	...	...	....	..	0.891	....	...	....	3
Butyl Benzene-sec.		$C_6H_5C_4H_9$	126	....	...	...	....	No	0.86	4.62	...	345	2, 3
Butyl Benzene-ter.		$C_6H_5C(CH_3)_3$	....	....	...	...	....	..	0.871	....	...	336.6	.....
Butyl Bromide-n.	1-Bromobutane	$CH_3(CH_2)_2CH_2Br$	....	55	..	...	600	..	1.272	4.72	-170	215	3
Butyl Butyrate	Butyl Butanoate	$CH_3(CH_2)_2COOC_4H_9$	....	128	...	...	....	..	0.874	....	...	305	1, 2, 3
Butyl Carbinol-ter		$(CH_3)_3CCH_2OH$	98	....	...	...	....	..	....	3.03	...	....	3
Butyl Carbitol	Diethylene glycol, monobutyl ether	$C_4H_9O(CH_2)_2O(CH_2)_2OH$	172	200	...	...	442	No	0.955	5.58	<-40	448	1, 3
Butyl Carbitol Acetate	Diethylene glycol, monobutyl ether acetate	$C_4H_9O(CH_2)_2O(CH_2)_2OOCCH_3$	....	240	...	...	570	No	0.987	....	...	474	1, 2, 3
Butyl Cellosolve	2-Butoxyethanol	$C_4H_9O(CH_2)_2OH$	141	165	...	...	472	No	0.902	4.07	<-40	340	1, 3
Butyl Cellosolve Acetate		$C_4H_9O(CH_2)_2OOCCH_3$	....	180	...	...	....	..	0.943	....	...	370	1, 2, 3
Butyl Chloride-n.	1-Chlorobutane	$CH_3CH_2CH_2CH_2Cl$	....	20	1.85	10.1	860	..	0.887	3.20	-190	170	2, 3
Butyl Decalin		$C_4H_9C_{10}H_{17}$	500	....	...	...	....	..	....	....	...	....	1, 3
Butyl Decalin-ter		$C_4H_9C_{10}H_{17}$	640	....	...	...	....	..	....	....	...	....	1, 3
Butyl Diethanolamine		$C_4H_9N(CH_2CH_2OH)_2$	....	245	...	...	....	..	0.97	5.55	...	503	1, 2, 3
Butylene-n.	1-Butene	$CH_3CH_2CH:CH_2$	gas	....	1.7	9.0	....	No	....	1.93	-202	23	4
Butylene Chloride		C_4H_7Cl	....	....	2.25	9.25	....	..	0.926	3.13	...	162	2, 3
Butylene Glycol	1, 3-Butanediol	$CH_3OHCH_2CH(OH)CH_3$	228	250	...	...	710	No	1.006	3.10	74	404.7	1, 3
Butyl Ethanolamine-n.	2-Butylaminoethanol	$CH_3(CH_2)_3NHCH_2CH_2OH$	....	170	...	...	....	No	0.89	4.03	...	377	1, 2, 3
Butyl Ether	1-Butoxybutane	$CH_3(CH_2)_3O(CH_2)_3CH_3$	....	100	...	...	....	No	0.769	4.48	...	286	2, 3
Butyl Formate-n	Butyl Methanoate	$HCOOC_4H_9$	64	....	...	...	....	No	0.911	3.52	-130	225	2, 3
Butyl Hydroperoxide-ter		$(CH_3)_3COOH$	55	65	...	...	....	No	0.860	2.07	....	....	3
Butyl Lactate		$CH_3CH(OH)COOC_4H_9$	....	160	...	...	720	No	0.968	5.04	-43	320	2, 3
Butyl Monoethanolamine-n		$C_4H_9NHC_2H_4OH$	....	170	...	...	....	..	0.89	4.03	...	378	1, 2, 3
Butyl Naphthalene		$C_4H_9C_{10}H_7$	680	....	...	...	....	..	....	....	...	....	1, 3
Butyl Oleate		$C_{17}H_{33}COOC_4H_9$	....	350	...	...	....	..	0.873	....	...	343	1, 2, 3
Butyl Oxalate	Dibutyl Ethanedioate	$(COOC_4H_9)_2$	....	265	...	...	....	..	0.989-0.993	....	...	....	1, 2, 3
Butyl Perbenzoate-ter		$C_6H_5COOOC(CH_3)_3$	66	75	...	...	....	No	1.035	6.69	...	d.235	3
Butyl Phthallyl Butyl Glycollate	"Santicizer" B-16	$C_6H_4(COO)_2(C_4H_9)CH_2COOC_4H_9$	385	390	...	...	....	No	>1	....	...	....	1, 2, 3
Butyl Propionate-n	Butyl Propanoate	$CH_3CH_2COOC_4H_9$	90	110	...	...	800	No	0.875	4.49	...	295	2, 3
Butyl Ricinoleate	Butyl-12-hydroxy-9-octadecanoate	$C_{18}H_{33}O_3C_4H_9$	230	....	...	...	....	..	0.906	....	...	790	1, 2, 3
Butyl Stearate-n.		$C_{17}H_{35}COOC_4H_9$	320	385	...	...	....	..	0.855	....	61	650	1, 2, 3
Butyl Tetralin-ter.		$C_4H_9C_{10}H_{11}$	680	....	...	...	....	..	....	....	...	....	1, 3
Butyraldehyde		$CH_3(CH_2)_2CHO$	20	....	...	...	....	No	0.817	2.48	-148	169	3
Butyraldehyde-iso	2-Methyl Propanal	$(CH_3)_2CHCHO$	-40	....	...	...	490	..	0.813	2.49	...	142	3
Butyraldoxime	Butanal Oxime	C_4H_8NOH	136	....	...	...	....	..	0.923	3.01	...	306	2, 3
Butyric Acid-n.	Butanoic Acid	$CH_3(CH_2)_2COOH$	170	....	...	...	....	No	0.960	3.04	18	327	1, 3
Butyric Anhydride-n.	Butanoic Anhydride	$[CH_3(CH_2)_2CO]_2O$	190	....	...	...	....	..	0.978	5.38	-102	388	1, 3
Butyrone	4-Heptanone	$(C_3H_7)_2CO$	120	....	...	...	....	No	0.815	3.93	...	290	3
Camphor	Gum Camphor	$C_9H_{16}CO$	150	200	...	...	871	No	0.999	5.24	354	408	1, 2, 3
Camphor Oil (light)	Liquid Camphor		117	125	...	...	....	No	0.88	....	...	347-392	2, 3
Caproic Acid	Hexanoic Acid	$CH_3(CH_2)_4COOH$	....	215	...	...	....	..	0.929	4.01	23	400	1, 2, 3
Carbitol	Diethylene glycol monoethyl ether	$CH_2OHCH_2OCH_2CH_2OC_2H_5$	201	215	...	...	....	No	0.99	4.62	...	396	1, 3
Carbitol Acetate	Diethylene glycol monoethyl ether acetate	$C_2H_5O(CH_2)_2O(CH_2)_2CO_2CH_3$	225	230	...	...	....	No	1.013	6.07	...	424	1, 3
Carbitol Phthalate	Dicarbitol Phthalate	$C_6H_4(COOC_2H_4OC_2H_4OC_2H_5)_2$	405	475	...	...	....	No	1.121	....	...	>500	.....
Carbon Disulfide	Carbon Bisulfide	CS_2	-22	....	1.0	50	257	No	1.256	2.64	-167	114	1, 3
Carbon Monoxide		CO	gas	....	12.5	74.2	1204	No	....	0.967	-339	-314	4
Carbonyl Sulfide	Carbon Oxysulfide	COS	gas	....	11.9	28.5	....	No	1.24	2.10	-216	122	4
Carnauba Wax	Brazil Wax		540	595	...	...	....	..	0.995	....	185	....	1, 3
Castor Oil	Ricinus Oil		445	545	...	...	840	Yes	0.96	....	10	595	1, 2, 3
Cationic Amine-220	1-Hydroxyethyl 1-2-heptadecenyl glyoxalidine	$C_{17}H_{33}CN(CH_2)_2NCH_2CH_2OH$	....	465	...	...	....	..	....	....	...	....	1, 2, 3
Cellosolve	Ethylene glycol monoethyl ether	$C_2H_5O(CH_2)_2OH$	104	120	2.6	15.7	460	No	0.931	3.10	...	275	3
Cellosolve Acetate	Ethylene glycol monoethyl ether acetate	$CH_3COOCH_2CH_2OC_2H_5$	124	135	1.71	...	715	No	0.975	4.72	...	313	3
Charcoal	Carbon	C	....	....	...	...	....	Yes	3.51	....	>6300	7600	1
Chlorobenzene	Phenyl Chloride	C_6H_5Cl	90	....	1.8 @ 212°F.	9.6 @ 302°F.	>1245	No	1.11	3.88	49	270	2, 3
Chloroethyl Acetate	Ethyl Chloroethanoate	$C_2H_4ClOOCCH_3$	129	....	...	...	....	..	1.178	4.21	...	293	1, 2, 3
Chloroform	Trichloromethane	$CHCl_3$	non-flammable		...	...	....	No	1.489	4.13	-82	142	.....
Chloronitroethane-1, 1		$C_2H_4NO_2Cl$	133	....	...	...	Explodes	..	1.258	3.77	...	257	1, 3
Chloronitropropane-1, 1		$CHNO_2ClC_2H_5$	144	....	...	...	upon	..	1.209	4.26	...	285	1, 3
Chloronitropropane-2, 2		$CH_3CNO_2ClCH_3$	135	....	...	...	rapid heating	..	1.193	4.26	...	273	1, 3
Coal Tar Oil			<80	....	...	...	....	..	<1	....	...	....	2, 3
Coal Tar Pitch			405	490	...	...	....	..	....	....	....	....	1, 2, 3
Cocoanut Oil			420	510	...	...	....	Yes	0.91	....	72	....	1, 2, 3
Collodion	Soln of nitrated Cellulose in ether/alcohol	$C_{12}H_{16}O_6(NO_3)_4C_{13}H_{17}O_7(NO_3)_3$	<0	....	...	...	....	No	....	....	...	....	3
Corn Oil			490	610	...	...	740	Yes	0.92	....	14	....	1, 2, 3
Cotton seed oil (refined)			486	550	...	...	650	Yes	0.925	....	15-30	.....	1, 2, 3
Creosote Oil			165	185	...	...	637	No	>1	....	...	382-752	1, 2, 3
o-Cresol	O-Methyl Phenol; O-Cresylic Acid	$CH_3C_6H_4OH$	178	....	1.35 @ 300°F.	...	1038	No	1.05	3.72	88	376	1, 2, 3
p-Cresol	p-Methyl Phenol; p-Cresylic Acid	$CH_3C_6H_4OH$	187	....	...	...	1038	No	1.04	3.72	95	395	1, 3
Crotonaldehyde	2-Butenal	$CH_3(CH)_2CHO$	55	....	2.95	15.5	....	No	0.853	2.41	-92	216	3
Crotonylene	2-Butyne	CH_3CCCH_3	63	....	1.37	...	....	..	....	1.91	...	83	2, 3
Cyanamide	Carbamonitrile	$CNNH_2$	285	405	...	...	....	..	1.073	1.45	113	d.500	1, 3
Cyclobutane	Tetraethylene	C_4H_8	<50	gas	...	...	....	No	....	....	-58	55	4
Cyclohexane	Hexamethylene	C_6H_{12}	1	....	1.31	8.35	514	No	0.779	2.60	43	176	2, 3
Cyclohexanol	Hexalin	$C_6H_{11}OH$	154	....	...	...	....	No	0.962	3.45	75	322	1, 2, 3
Cyclohexanone	Ketohexamethylene	$C_6H_{10}O$	147	....	1.1 @ 212°F.	...	847	No	0.947	3.38	-50	313	3

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			Closed Cup	Open Cup	Lower	Upper							
Cyclohexanone delta		C_6H_8O	93	....	...	...	....	No	....	3.31	...	....	3
Cyclohexyl Acetate	Hexalin Acetate	$CH_3COOC_6H_{11}$	136	....	...	...	....	No	....	4.90	...	350	2, 3
Cyclohexylamine	Aminocyclohexane	$C_6H_{11}NH_2$	....	90	...	...	560	..	0.865	3.42	...	274	3
Cyclopentane	Pentamethylene	C_5H_{10}	....	....	...	...	....	..	0.751	....	...	120.7	.....
Cyclopropane	Trimethylene	C_3H_6	gas	....	2.41	10.3	....	No	....	1.45	-195	-29	4
p-Cymene	4-isopropyl-1-methylbenzene	$CH_3C_6H_4CH(CH_3)_2$	117	145	0.7 @ ? 12°F.	...	921	No	0.86	4.62	-101	334	2, 3
Decahydronaphthalene	Decalin	$C_{10}H_{18}$	136	....	...	...	504	No	0.895	4.76	-194	379	2, 3
Decane-n	Decyl Hydride	$CH_3(CH_2)_8CH_3$	115	....	0.67	2.6	>500	No	0.730	4.90	-26	344	2, 3
Denatured Alcohol—95%	Denatured ethanol		60	....	...	...	750	No	0.82	1.60	-60	175	3
Diacetone (acetone free)	4-Hydroxy-4-methyl-pentanone-2	$CH_3COCH_2C(CH_3)_2OH$	136	145	...	...	1190	..	0.93-0.94	....	...	328	1, 3
Diacetone-(comm'l.)	Diacetone Alcohol		48	55	...	...	1118	No	0.931	4.00	...	328	1, 3
Diamylamine	Di-n-amylamine	$(C_5H_{11})_2NH$	124	>158	...	...	....	..	0.777	5.42	...	356	2, 3
Diamylene		$C_{10}H_{20}$	....	118	...	...	....	..	0.77-0.78	....	<-58	302	2, 3
Diamyl Naphthalene		$C_{10}H_6(C_5H_{11})_2$	....	315	...	...	....	..	0.93-0.94	9.26	...	624	2, 3
Diamyl Phenol-2, 4		$(C_5H_{11})_2C_6H_3OH$	....	260	...	...	....	..	0.93-0.94	8.08	...	527	2, 3
Di-ter-Amylphenoxy Ethanol		$C_6H_3(C_5H_{11})_2OCH_2CH_2OH$	....	300	...	...	....	..	0.959	9.6	-31	615	3
Diamyl Phthalate		$C_6H_4(COOC_5H_{11})_2$	245	....	...	...	....	..	....	....	...	648	1, 2, 3
Diamyl Phthalate-n	Amyl Phthalate	$C_6H_4(COOC_5H_{11})_2$	245	340	...	...	....	..	1.023	....	...	475-490	1, 2, 3
Diamyl Sulfide		$(C_5H_{11})_2S$	....	185	...	...	....	..	0.88-0.89	6.02	...	338-356	1, 2, 3
Dianisidine	Di-para-aminodi-methoxydiphenyl	$[NH_2(OCH_3)C_6H_3]_2$	403	....	...	...	....	..	....	....	269	....	1, 3
Dibenzyl Ether		$(C_6H_5CH_2)O(C_6H_5CH_2)$	275	....	...	...	....	No	1.036	6.82	41	568	1, 2, 3
Dibutoxymethane		$CH_2(OC_4H_9)_2$	140	....	...	...	....	No	0.838	....	140	330-370	.....
Dibutylamine	Di-n-butylamine	$(C_4H_9)_2NH$	....	135	...	...	....	..	0.76	4.46	...	322	2, 3
Dibutylaminoethanol	Di-n-butylamine ethanol	$(C_4H_9)_2NC_2H_4OH$	....	200	...	...	....	..	0.86	5.97	...	432	1, 3
Dibutyl Ether-n	1-Butoxybutane	$C_4H_9OC_4H_9$	77	....	...	...	382	No	0.769	4.48	...	286	3
Dibutyl Oxalate-n		$C_4H_9OOCCOOC_4H_9$	220	....	...	...	....	No	1.01	....	...	....	1, 2, 3
Dibutyl Phthalate-n	Dibutyl 1, 2-benzene-dicarboxylate	$C_6H_4(COOC_4H_9)_2$	315	335	...	...	757	No	1.045	9.58	...	690	1, 2, 3
Dibutyl Phthalate-iso	Diisobutyl 1, 2-benzene dicarboxylate	$C_6H_4(COOCH_2CHCH_3CH_3)_2$	322	....	...	...	....	No	....	9.58	...	....	1, 2, 3
Dibutyl Sebacate		$[(CH_2)_4COOC_4H_9]_2$	....	353	...	...	....	..	0.963	....	...	650	1, 3
Dibutyl Tartrate-n	Dibutyl-d-2, 3-dihydroxybutanedioate	$(COOC_4H_9)_2(CHOH)_2$	195	230	...	...	544	No	1.09	9.03	72	650	1, 2, 3
o-Dichlorobenzene	1,2-Dichlorobenzene	$C_6H_4Cl_2$	151	165	...	...	....	No	1.325	5.07	2	354	1, 2, 3
p-Dichlorobenzene	1,4-Dichlorobenzene	$C_6H_4Cl_2$	150	165	...	...	....	No	1.458	5.07	127	345	1, 2, 3
1, 3-Dichlorobutene-2		$CH_2ClCHCClCH_3$	80	95	...	...	....	No	....	4.31	...	258	2, 3
Dichlorodifluoromethane	Freon, F-12	CCl_2F_2	non-flammable		...	...	....	No	....	....	...	-21.5	.....
Dichloroethylene 1, 1	Dichloroethene 1, 1	CH_2CCl_2	57	....	5.6	12.4	856	No	1.250	3.35	...	98.6	1, 2, 3
Dichloroethylene 1, 2	Acetylene Dichloride	ClCHCHCl	43	....	9.7	12.8	....	No	1.282	3.35	-113	141	1, 2, 3
Dichloroethyl Ether-sym	1-chloro-2-(beta chloroethoxy)-ethane	$(ClC_2H_4)_2O$	131	180	...	...	696	No	1.22	4.93	-58	352	1, 2, 3
Dichloroethyl Formal	Di-[2-Chloroethyl] Formal	$CH_2(OCH_2CH_2Cl)_2$	....	230	...	...	....	..	1.23	5.9	...	424	1, 2, 3
1, 3 Dichloro-2, 4-Hexadiene		$CH_2ClHCCClHCCHCH_3$	168	180	...	...	....	..	....	5.20	...	....	1, 2, 3
Dichloroisopropyl Ether	1-chloro-2-(beta-chloroisopropoxy) propane	$ClCH_2CH(CH_3)OCH(CH_3)CH_2Cl$	....	185	...	...	....	No	1.11	....	...	369	1, 2, 3
1, 1 Dichloro, 1 Nitro Ethane		$CH_3CCl_2NO_2$	....	168	...	...	....	..	1.405	4.67	...	255	1, 3
1, 1 Dichloro, 1 Nitro Propane		$C_2H_5CCl_2NO_2$	....	151	...	...	....	..	1.314	5.45	...	289	1, 3
Dichloropentanes, mixed		$C_5H_{10}Cl_2$	....	106	...	...	....	..	1.06-1.08	....	...	266	1, 2, 3
Dichlorotetrafluoroethane	Freon-114	$C_2Cl_2F_4$	non-flammable		...	...	....	No	....	....	...	38.5	.....
Dicyclohexylamine		$(C_6H_{11})_2NH$	....	>210	...	...	....	..	0.910	6.27	...	496	3
Dicyclopentadiene			....	....	...	...	....	..	0.9440	....	...	316	.....
Diethanolamine	Di(2-hydroxyethyl)amine	$(HOCH_2CH_2)_2NH$	....	280	...	...	1224	No	1.097	3.65	82	514	1, 3
Diethylamine		$(C_2H_5)_2NH$	<0	<0	...	...	....	No	0.710	2.53	...	134	3
Diethylaminoethanol		$(C_2H_5)_2NCH_2CH_2OH$	....	140	...	...	....	No	0.885	....	...	322	3
Diethyl Carbitol	Diethylene glycol diethyl ether	$CH_3(CH_2OCH_2)_2CH_3$	....	180	...	...	....	No	0.908	....	...	367	1, 3
Diethyl Carbonate	Ethyl Carbonate	$(C_2H_5)_2CO_3$	//	....	...	...	....	No	0.977	4.07	-45	259	2, 3
Diethyl Cellosolve	Ethylene glycol diethyl ether	$C_2H_5OCH_2CH_2OC_2H_5$	..	95	...	...	406	No	0.842	....	...	251	3
Diethyl Diphenyl Urea		$[(C_2H_5)(C_6H_5)N]_2CO$	302	....	...	...	....	No	1.12	....	160	620	1, 2, 3
Diethylene Glycol	Di-hydroxy-di-ethyl ether	$CH_2OHCH_2OCH_2CH_2OH$	255	290	...	...	444	No	1.119	3.66	21	472	1, 3
Diethylene Oxide	1:4 Dioxane	$CH_2OCH_2CH_2OCH_2$	54	65	1.97	22.2	356	..	1.035	3.03	50	214	3
Diethylene Triamine	2, 2-Diaminodiethyl-amine	$NH_2CH_2CH_2NHCH_2CH_2NH_2$	210	215	...	...	750	..	0.954	3.48	...	404	1
Diethyl Ether	Ether; Ethyl Ether	$C_2H_5OC_2H_5$	-20	....	1.7	48.0	366	No	0.71	2.55	-177	95	3
Diethyl Glycol Phthalate	Diethoxyethyl phthalate	$C_6H_4[COO(CH_2)_2OC_2H_5]_2$	343	....	...	...	....	..	1.11	....	...	....	1, 3
Diethylhexylamine	Dioctylamine	$[C_4H_9CH(C_2H_5)CH_2]_2NH$	....	270	...	...	....	..	0.806	8.33	...	538	1, 2, 3
Diethyl Oxalate	Ethyl Ethanedioate	$(COOC_2H_5)_2$	....	168	...	...	....	..	1.07	5.03	...	356	1, 2, 3
Diethyl Malonate	Ethyl Malonate	$CH_2(COOC_2H_5)_2$	....	200	...	...	....	No	1.055	....	<-4	385-392	1, 3
o-Diethyl Phthalate	Ethyl-o-Phthalate	$C_6H_4(COOC_2H_5)_2$	....	325	...	...	....	..	1.11-1.12	....	...	565	1, 2, 3
p-Diethyl Phthalate	Ethyl-p-Phthalate	$C_6H_4(COOC_2H_5)_2$	243	305	...	...	....	..	1.11	7.66	112	576	1, 2, 3
Diethyl Selenide		$(C_2H_5)_2SE$	....	....	2.5	...	....	No	1.23	4.73	...	226	1, 2, 3
Diethyl Sulfate		$(C_2H_5)_2SO$	220	....	...	...	817	No	1.184	5.31	-12	406	1, 2, 3
Difluoromono Chloromethane	Freon-22	(CHF_2Cl)	practically non-flammable		...	...	1170	..	....	....	...	....	.....
Diglycol Chloroformate			....	295	...	...	....	..	....	....	...	....	1, 2, 3
Diglycol Chlorohydrin		$HOCH_2CH_2OCH_2CH_2Cl$	....	225	...	...	....	No	1.172	....	...	387	1, 3
Diglycol Dilevulinate	Diethylene Glycol Dilevulinate	$[CH_2CH_2OOC(CH_2)_2COCH_3]_2O$	340	385	...	...	....	..	1.145	....	...	....	1, 2, 3
Dihydropyran			4	....	...	...	....	..	0.923	....	...	186	.....
Di-isobutyl Ketone		$(CH_3)_2CHCH_2COCH_2CH(CH_3)_2$	140	....	...	...	....	No	0.809	....	...	335	.....
Di-isopropanolamine		$[CH_3CH(OH)CH_2]_2NH$	....	260	...	...	....	..	0.989	4.59	...	107.6	1, 3
Di-isopropylamine		$[(CH_3)_2CH]_2NH$	20	....	...	...	....	..	0.726	....	...	180	.....
Di-isopropyl Benzene		$[(CH_3)_2CH]_2C_6H_4$	....	170	...	...	840	..	....	5.59	...	....	1, 2, 3
Dimethoxy Tetraglycol	Tetraethylene glycol dimethyl ether	$CH_3OCH_2(CH_2OCH_2)_3CH_2OCH_3$	....	285	...	...	....	No	1.013	....	...	528	1, 3
Dimethyl Aniline		$C_6H_5N(CH_3)_2$	145	170	...	...	700	No	0.956	4.17	36	379	1, 2, 3
2, 3-Dimethylbutane	Diisopropyl	$(CH_3)_2CHCH(CH_3)_2$	....	<-20	...	...	....	No	0.672	3.00	...	255	3

NAME	SYNONYMS	FORMULA	Flash Point °F.		Explosive Limits % by Vol. in Air		Auto-ignition Temp. °F.	Susceptibility to Spontaneous Heating	Specific Gravity (Water=1.00)	Vapor Density (Air=1.00)	Melting Point °F.	Boiling Point °F.	Suitable Extinguishing Agents
			Closed Cup	Open Cup	Lower	Upper							
Dimethylchloracetal			....	....	...	...	450	..	....	....	....	....	.....
p-Dimethyl Cyclohexane	Hexahydroxylol	$(CH_3)_2C_6H_{10}$	52	....	...	...	....	No	0.77	3.86	-123	248	2, 3
Dimethyldichlorosilane	DDS		....	....	3.4	>9.5	....	..	....	....	....	....	....
Dimethylethanolamine	Dimethylaminoethanol	$(CH_3)_2N(CH_2)_2OH$	....	88	...	...	....	No	0.887	3.07	....	272	3
Dimethyl Ether*	Methyl Ether	CH_3OCH_3	-42	gas	3.4	26.7	662	No	0.661	1.617	-216	-11	3
Dimethyl Formamide		$(CH_3)_2NCHO$	136	155	2.2 @ 212°F.	...	833	..	0.945	....	-78	307	1, 2, 3
Dimethyl Glycol Phthalate	Methyl "Cellosolve" Phthalate	$C_6H_4[COO(CH_2)_2OCH_3]_2$	369	....	...	...	....	No	1.17	9.72	...	446	1, 3
Dimethylpentane	Diethyldimethylmethane	C_7H_{16}	....	....	...	...	....	..	0.677	....	...	1766	....
o-Dimethyl Phthalate		$C_6H_4(COOCH_3)_2$	295	325	...	...	1032	No	1.189	6.69	...	540	1, 2, 3
2, 2-Dimethylpropane			....	....	...	...	....	..	0.595	....	....	49.1	....
Dimethyl Sulfate	Methyl Sulfate	$(CH_3)_2SO_4$	182	240	...	...	....	No	1.332	4.35	-16	370	1, 2, 3
Dinitro Aniline-2, 4	2, 4-Dinitrophenylamine	$(NO_2)_2C_6H_3NH_2$	435	510	...	...	....	..	1.615	6.31	370	....	1, 3
Dinitro Benzene-1, 2	O-Dinitrobenzol	$C_6H_4(NO_2)_2$	302	....	...	...	....	..	1.59	5.79	243	605	1, 3
Dinitro Chlorobenzene	Dinitrochlorobenzol	$C_6H_3Cl(NO_2)_2$	382	405	1.97	22	....	..	1.68	6.98	109	....	1, 3
Dinitro Toluene-2, 4	1-Methyl-2, 4-dinitro-benzene	$(NO_2)_2C_6H_3CH_3$	....	....	...	...	....	No	1.52	6.27	158	572	1, 3
Dioctyl Phthalate	Di-2-Ethylhexyl Phthalate	$C_6H_4[COOCH_2CH(C_2H_5)C_4H_9]_2$	....	390	...	...	....	..	0.986	13.45	...	726	1, 2, 3
Dioxolane		$OCH_2CH_2OCH_2$	....	35	...	...	....	..	1.065	2.55	...	165.2	3
Diphenyl	Phenylbenzene	$C_6H_5C_6H_5$	235	255	...	...	....	No	0.985	5.31	158	491	1, 3
Diphenylamine	Anilinobenzene	$(C_6H_5)_2NH$	307	....	...	...	....	No	1.16	5.82	127	575	1, 3
Diphenyl Methane	Benzylbenzene	$(C_6H_5)_2CH_2$	266	....	...	...	....	No	1.006	5.79	79	503	1, 2, 3
Diphenyl Oxide	Diphenyl Ether	$(C_6H_5)_2O$	239	....	...	...	....	No	1.073	5.86	81	500	1, 2, 3
Dipropylene Glycol	1, 1-Oxydipropanol-2	$[CH_3CHOHCH_2]_2O$	....	280	...	...	....	No	1.040	....	...	372	1, 3
Divinyl Ether	Vinyl Ether	$CH_2CHOCHCH_2$	<-22	....	1.85	36.5	680	No	0.774	2.41	...	102	3
Dodecane	Dihexyl	$CH_3(CH_2)_{10}CH_3$	165	....	0.6	...	....	No	0.750	5.86	10	421	1, 2, 3
Ester Gum			375	555	...	...	....	No	....	....	285	495	1, 3
Ethane	Methylmethane	C_2H_6	gas	....	3.3	10.6	950	No	....	1.035	-278	-128	4
Ethanolamine	2-Aminoethanol	$NH_2CH_2CH_2OH$	....	200	...	...	....	No	1.02	2.10	51	342	1, 3
Ethylacetanilide	Ethyl phenylacetamide	$CH_3CON(C_2H_5)(C_6H_5)$	126	....	...	...	....	..	0.942	5.62	...	400	2, 3
Ethyl Acetate	Ethyl Ethanoate	$CH_3COOC_2H_5$	24	30	2.18	11.5	907	No	0.899	3.04	-116	171	3
Ethyl Acetoacetate	Ethyl 3-oxobutanoate	$C_2H_5COOCH_2COCH_3$	....	184	...	...	....	No	1.03	4.48	-48	356	1, 3
Ethyl Alcohol	Ethanol	C_2H_5OH	55	....	3.28	19	799	No	0.79	1.59	-178	173	3
Ethylamine—70% aqueous solution	Aminoethane	$C_2H_5NH_2$	....	<0	...	...	....	..	0.778–0.802	....	...	....	3
Ethyl Aniline-mono		$C_6H_5NHC_2H_5$	....	185	...	...	....	..	0.95–0.97	4.17	...	400.5	1, 2, 3
Ethyl Benzene	Phenylethane	$C_2H_5C_6H_5$	59	75	...	...	870	No	0.868	3.66	-134	277	2, 3
Ethyl Benzoyl Acetate		$C_6H_5COCH_2COOC_2H_5$	....	285	...	...	....	..	1.11	....	...	291–298	1, 3
Ethyl Borate		$(C_2H_5)_3BO_3$	52	....	...	...	....	No	0.863	....	....	233	3
Ethyl Bromide	Bromoethane	C_2H_5Br	....	....	6.0	11.0	952	No	1.430	3.76	-182	100	1, 3
2-Ethyl Butyl Acetate		$CH_3COOCH_2CH(C_2H_5)_2$	....	130	...	...	....	..	0.880	....	...	324	2, 3
2-Ethyl Butyl Carbonate		$(C_2H_5)(C_4H_9)CO_3$	122	....	...	...	....	No	0.92	5.03	...	275	2, 3
2-Ethylbutyl Cellosolve	Ethylene glycol ethylbutyl ether	$(C_2H_5)_2CHCH_2OCH_2CH_2OH$	....	180	...	...	....	..	0.895	....	...	386	1, 2, 3
2-Ethylbutyraldehyde	2-Ethylbutyric Aldehyde	$(C_2H_5)_2CHCHO$	....	70	...	...	....	..	0.816	3.45	....	242	3
Ethyl Butyrate-n.	Ethyl Butanoate	$CH_3CH_2CH_2COOC_2H_5$	78	85	...	...	865	No	0.879	4.00	-135	248	3
2-Ethylbutyric Acid	2-Ethylbutanoic Acid	$(C_2H_5)_2CHCOOH$	....	210	...	...	....	..	0.922	4.01	....	380	1, 3
Ethyl Chloride	Chloroethane	C_2H_5Cl	-58	-45	3.6	12.0	966	No	0.910	2.22	-220	54	3
Ethyl Chloroformate	Ethylchlorocarbonate	C_2H_5OOCCl	61	82	...	...	....	No	1.13	3.74	...	201	3
Ethyl Crotonate		$CH_3CHCHCOOC_2H_5$	36	....	...	...	....	No	0.920	....	...	282	2, 3
Ethyl Diethanolamine		$C_2H_5N(C_2H_4OH)_2$	....	255	...	...	....	..	1.01	4.59	....	464	1, 3
Ethylene	Ethene	C_2H_4	gas	....	3.02	34	1009	No	....	0.975	-272	-155	4
Ethylene Chlorohydrin	2-Chloroethanol	CH_2ClCH_2OH	....	140	...	...	....	No	1.213	2.78	-94	264	1, 3
Ethylene Diamine	1, 2-Ethanediamine	$H_2NCH_2CH_2NH_2$	69% 160 100% 93	175 110	... ...	... ...	715	No	.... 0.899	.... 2.07	 47	 241	 3
Ethylene Dichloride	1, 2-Dichloroethane	CH_2ClCH_2Cl	56	65	6.2	15.9	775	No	1.258	3.42	-33	183	1, 2, 3
Ethylene Glycol	Glycol	CH_2OHCH_2OH	232	240	3.2	...	775	No	1.113	2.14	8	387	3
Ethylene Glycol Monoacetate		$CH_2OHCH_2OOCCH_3$	....	215	...	...	....	No	1.109	....	....	357	1, 3
Ethylene Oxide	1, 2-Epoxyethane	CH_2OCH_2	<0	....	3	80	804	No	0.887	1.52	-168	51	3
Ethylethanolamine-1		$C_2H_5NHC_2HOH$	....	160	...	...	....	..	0.92	80	....	322	1, 3
Ethyl Formate	Ethyl Methanoate	$HCOOC_2H_5$	-4	10	2.75	16.5	....	No	0.922	2.55	-112	130	2, 3
Ethyl Hexaldehyde		$C_4H_9CH(C_2H_5)CHO$	....	125	...	...	....	..	0.8205	4.42	...	325.4	2, 3
2-Ethylhexanediol-1, 3	Ethylhexylene Glycol	$CH_3(CH_2)_2CHOHCH(C_2H_5)CH_2OH$	....	260	...	...	....	..	0.942	5.03	...	472	1, 2, 3
2-Ethylhexanoic Acid	Octoic Acid	$CH_3(CH_2)_3CH(C_2H_5)COOH$	....	260	...	...	....	..	0.907	4.97	...	440	1, 2, 3
Ethyl Hexanol		$C_4H_9CH(C_2H_5)CH_2OH$	....	185	...	...	....	..	0.8340	4.49	...	359	1, 2, 3
Ethyl Lactate	Ethyl 2-hydroxy propanoate	$CH_3CHOHCOOC_2H_5$	115	....	1.55 @ 212°F.	...	752	No	1.03	4.07	...	309	3
Ethyl Mercaptan	Ethanethiol	C_2H_5SH	<80	....	2.8	18.2	570	..	0.839	2.11	-185	98	3
Ethyl Morpholine		$CH_2CH_2OC_2H_4NCH_2CH_3$	....	89.6	...	...	....	..	0.916	4.00	....	280.4	2, 3
Ethyl Nitrate	Nitric Ether	$C_2H_5ONO_2$	50	50	3.8	...	....	No	1.105	3.14	-152	190	2, 3
Ethyl Nitrite	Nitrous Ether	C_2H_5ONO	-31	....	3.01	>50	194	No	0.900	2.59	....	63	2, 3
Ethyl Oxalate	Ethyl Ethanedioate	$(COOC_2H_5)_2$	168	....	...	...	....	No	1.080	5.04	-40	367	1, 3
Ethyl Phthallyl Ethyl Glycollate			365	385	...	...	....	..	>1	....	....	....	1, 2, 3
Ethyl Propionate	Propionic Ether	$C_2H_5COOC_2H_5$	54	....	...	...	890	No	0.891	3.52	-99	210	2, 3
2-Ethyl-3- Propylacrolein	2-Ethylhexenal	$C_2H_7CH:C(C_2H_5)CHO$	....	155	...	...	....	..	0.851	4.35	...	347	1, 2, 3
Ethyl Silicate	Ethyl orthosilicate	$(C_2H_5)_4SiO_4$	....	125	...	...	....	..	0.936	7.22	...	334	3
Ethyl p-Toluene Sulfonamide		$C_7H_7SO_2NHC_2H_5$	260	380	...	...	....	..	....	....	...	....	1, 3
Ethyl p-Toluene Sulfonate		$C_7H_7SO_3C_2H_5$	316	....	...	...	....	..	....	....	...	....	1, 2, 3
Fish Oil			420	....	...	...	...	Yes	....	....	...	....	1, 2, 3
Formaldehyde (gas)	Methanal	HCOH	....	....	7	73	806	..	....	1.075	...	-6	4
(Sol'n, 37% gas in water)	Formalin		130	200	...	...	817	No	....	1.03	...	....	3
Formic Acid	Methanoic Acid	HCOOH	156	....	...	...	1114	..	1.218	1.59	47	213	1, 3
Fuel Oil No. 1	Range Oil		110–165	....	...	...	490	No	<1	....	...	....	2, 3
Fuel Oil No. 2			110–190	....	...	...	494	No	<1	....	...	....	2, 3
Fuel Oil No. 3			125–200	....	...	...	498	No	<1	....	...	....	2, 3
Fuel Oil No. 4			150+	250	...	...	505	No	<1	....	...	....	1, 2, 3
Fuel Oil No. 5			150+	....	...	...	....	No	<1	....	...	....	1, 2, 3
Fuel Oil No. 6			150+	320	...	...	765	No	<1	....	...	....	1, 2, 3

NAME	SYNONYMS	FORMULA	Flash Point °F.		Explosive Limits % by Vol. in Air		Auto-ignition Temp. °F.	Susceptibility to Spontaneous Heating	Specific Gravity (Water=1.00)	Vapor Density (Air=1.00)	Melting Point °F.	Boiling Point °F.	Suitable Extinguishing Agents
			Closed Cup	Open Cup	Lower	Upper							
Furfural	Furol	C_4H_3OCHO	140	155	2.1	...	739	No	1.159	3.31	-34	322	1, 2, 3
Furfuryl Alcohol	Furfuryl Carbinol	$C_4H_3OCH_2OH$	167	....	...	...	915	..	1.129	3.37	-4	340	3
Gas, Blast Furnace			....	....	35	74	....	No	....	....	...	....	4
Gas, Coal Gas			....	....	5.3	31	1200	No	....	....	...	....	4
Gas, Illuminating			....	....	5.3	31	1094	No	....	....	...	....	4
Gas, Natural			....	....	4.8	13.5	....	No	....	....	...	....	4
Gas, Oil Gas			....	....	6.0	13.5	637	No	....	....	...	....	4
Gas Producer			....	....	20.7	73.7	....	No	....	....	...	....	4
Gas, Water			....	....	9.0	55.0	....	No	....	....	...	....	4
Gas Oil			150+	....	6.0	13.5	640	No	<1	....	...	....	1, 2, 3
Gasoline			-50	....	1.3	6	495	No	0.75	3-4	<-50	100-400	2, 3
Glycerine	Glycerol	$HOCH_2CHOHCH_2OH$	320	350	...	...	739	No	1.26	3.17	64	554	1, 3
Glyceryl Triacetate	Triacetin	$(C_3H_5)(OOCCH_3)_3$	280	295	...	...	812	No	1.161	7.52	-108	496	1, 2, 3
Glycol Diacetate	Ethylene Acetate	$(CH_3COO)_2C_2H_4$	....	220	...	...	....	No	1.100	5.03	-24	370	1, 2, 3
Glycol Diformate	Ethylene Formate	$HCOOCH_2CH_2OOCH$	....	200	...	...	....	..	1.227	4.07	...	350	1, 3
Heptadecanol	Heptadecyl Alcohol	$C_{17}H_{35}OH$	....	310	...	...	....	..	0.847	8.84	130	588	1, 2, 3
Heptane -n.		$CH_3(CH_2)_5CH_3$	25	....	1	6	452	No	0.683	3.45	-130	208	2, 3
Heptanes -iso		C_7H_{16}	<0	....	1	6	....	No	0.725	3.45	...	176-195	2, 3
Heptanol-2	Amylmethyl Carbinol	$CH_3(CH_2)_4CHOHCH_3$	....	160	...	...	....	..	0.818	4.01	...	320	1, 2, 3
Hexane-n		$CH_3(CH_2)_4CH_3$	-7	....	1.25	6.9	477	No	0.661	2.97	-137	156	3
Hexane -iso		C_6H_{14}	<-20	....	1	7	....	..	0.669	3.0	...	130	2, 3
Hexyl Acetate	Methyl Amyl Acetate	$C_6H_{13}COOCH_3$	113	....	...	...	....	No	0.855	4.97	...	285	3
Hexyl Alcohol-n.	1-Hexanol	$CH_3(CH_2)_4CH_2OH$	145	....	...	...	....	No	0.82	3.52	-62	311	3
Hexyl Alcohol	Ethylbutyl Alcohol	$(C_2H_5)_2CHCH_2OH$	137	....	...	...	....	No	0.818	3.52	...	275	3
Hexylene Glycol	Hexandiol	$CH_2OHCHOH(CH_2)_3CH_3$	....	205	...	...	....	No	0.922	4.07	...	385	1, 2, 3
Hexyl Ether	Dihexyl Ether	$C_6H_{13}OC_6H_{13}$	....	170	...	...	....	..	0.794	6.43	...	440	1, 2, 3
Hydrocyanic Acid	Prussic Acid	HCN	0	gas	5.6	40	1000	No	0.697	0.932	10	79	4
Hydrogen		H_2	gas	....	4.1	74.2	1076	No	....	0.069	-435	-422	4
Hydrogen Sulfide		H_2S	gas	....	4.3	45.5	500	No	....	1.18	-117	-76	4
Hydroquinone	p-Hydroxybenzene	$C_6H_4(OH)_2$	329	....	...	...	960	..	1.332	3.81	338	545	1, 3
Hydroxylamine	Ozammonium	NH_2OH	Explodes at 265	....	...	...	....	..	1.227	....	92	158	.....
Indocene			170	....	...	...	....	..	1.064	....	...	340	.....
Indonex			450	....	...	...	....	....	0.9958	....	...	...	.....
Isobutane	2-Methylpropane	$(CH_3)_2CHCH_3$	gas	....	1.8	8.4	....	..	....	2.08	...	10	4
Isobutylene			....	....	...	...	....	..	0.600	....	...	19.6	.....
Isobutyraldehyde	2-Methylpropanal	$(CH_3)_2CHCHO$	-40	....	...	...	490	..	0.813	....	...	146	3
Isoprene		$CH_2=C(CH_3)CH=CH_2$	-65.2	....	...	...	428	..	0.679	2.35	...	93	3
Isopropylamine	Monoisopropylamine	$(CH_3)_2CHNH_2$	....	-35	...	...	....	..	0.68	....	...	89	3
Kerosene	No. 1 Fuel Oil		110-165	....	1.16	6.0	490	No	<1	4.5	...	....	2, 3
Lactol Spirits			7 or less	....	...	...	590	..	....	....	...	....	3
Lanolin	Wool Grease		460	560	...	...	833	Yes	<1	....	100±	....	1, 2, 3
Lard Oil (commercial)			395	....	...	...	833	Yes	<1	....	28	....	1, 2, 3
Lard Oil (pure)			500	....	...	...	....	Yes	....	....	...	....	1, 2, 3
Lead Tetramethyl		$Pb(CH_3)_4$	....	....	1.8	...	....	..	1.995	9.20	-18	230	1, 2, 3
Linseed Oil			435	535	...	...	820	Yes	0.93	....	-2	600+	1, 2, 3
Lubricating Oil, Mineral	Paraffin Oil, includes motor oil		....	300-450	...	...	500-700	No	<1	....	...	....	1, 2, 3
Magnesium (Powder or Chips)*		Mg	....	....	...	...	....	No	....	....	1200	2048	5
Maleic Anhydride	cis-Butenedioic Anhydride	$(CHCO)_2O$	218	240	...	...	890	..	1.305	3.38	127	396	1, 3
Manganese (Powder)*		Mn	....	....	...	...	....	No	....	....	2300	3450	5
Menhaden Oil	Pogy Oil		435	....	...	...	828	Yes	0.927	....	...	....	1, 2, 3
2-Mercaptoethanol	2-Hydroxyethyl-mercaptan	$HSCH_2CH_2OH$	....	165	...	...	....	..	1.116	2.70	...	315	3
Mesityl Oxide	4-Methyl-3 penten-2-one	$(CH_3)_2CCHCOCH_3$	87	....	...	...	652	..	0.858	3.40	...	266	3
Metaldehyde	m-Acetaldehyde	$(C_2H_4O)_4$	97	135	...	...	....	No	....	6.06	475	....	1, 3
Methane	Marsh Gas	CH_4	gas	....	5.3	13.9	999	No	....	0.554	-300	-258	4
Methoxy Ethyl Phthalate	Methox		275	370	...	...	....	No	....	....	...	....	1, 2, 3
Methoxytriglycol Acetate	Triethylene Glycol Methyl Ether Acetate	$CH_3O(CH_2)_2O(CH_2)_2O(CH_2)_2OCOCH_3$	....	260	...	...	....	..	1.094	7.11	...	266	3
Methyl Acetate		CH_3COOCH_3	15	20	4.1	13.9	935	No	0.925	2.56	-146	140	3
Methyl Acetoacetate		$CH_3COCH_2COOCH_3$	180	....	...	...	....	No	1.077	4.00	82	338	1, 2, 3
Methyl Acetone (Mixture)			0	15	...	...	....	..	....	....	...	....	3
Methyl Alcohol	Methanol	CH_3OH	54	60	6.0	36.5	878	No	0.792	1.11	-144	147	3
Methylamine, mono	Aminoethane	CH_3NH_2	0	gas	...	...	....	..	0.699	....	-134	19	3
Methylamine—30% sol'n.			....	32	...	...	....	..	....	....	...	....	3
Methyl Amyl Ketone	Heptanone-2	$CH_3(CH_2)_4COCH_3$	....	120	...	...	....	..	0.816	3.94	...	303	2, 3
Methyl Bromide	Bromomethane	CH_3Br	practically non-flammable		13.5	14.5	998	No	1.732	3.27	-135	40	.....
2-Methyl Butadiene-1, 3			....	....	...	...	....	..	0.686	....	...	93.2	.....
2-Methylbutene-2			....	....	...	...	....	..	0.6634	....	...	101.0	.....
Methyl n-Butyl Ketone	2-Hexanone	$CH_3CO(CH_2)_3CH_3$	....	95	1.22	8.0	....	No	0.830	3.45	-70	262	2, 3
Methyl iso-Butyl Ketone	4-Methyl-2-Pentanone	$CH_3COCH_2CH(CH_3)_2$	73	....	...	...	....	No	0.803	3.45	-121	244	2, 3
Methyl Butyrate		$CH_3COOC_3H_7$	57	....	...	...	....	No	0.898	3.45	<-142	215	2, 3
Methyl Carbitol	Diethylene Glycol Monomethyl Ether	$CH_3(OCH_2CH_2)_2OH$	....	200	...	...	....	No	1.035	4.14	...	379	1, 3
Methyl Carbitol Acetate	Diethylene Glycol Monomethyl Ether Acetate	$CH_3COOC_2H_4OC_2H_4OCH_3$	....	180	...	...	....	No	1.039	....	...	409	2, 3
Methyl Cellosolve	Ethylene Glycol Monomethyl Ether	$CH_3OCH_2CH_2OH$	107	115	...	...	551	No	0.966	2.62	...	255	3
Methyl Cellosolve Acetate	Ethylene Glycol Monomethyl Ether Acetate	$CH_3COOCH_2CH_2OCH_3$	132	140	...	...	....	No	1.005	4.07	...	289	3
Methyl Chloride	Chloromethane	CH_3Cl	gas	....	8.1	17.2	1170	No	0.92	1.78	-142	-11	4
Methyl Cyclohexane	Hexahydrotoluene	C_7H_{14}	25	....	1.15	...	....	No	0.770	3.38	-195	214	2, 3
Methyl Cyclohexanol	Hexahydromethyl Phenol	$C_7H_{13}OH$	154	....	...	...	....	No	0.993	3.93	...	329	1, 2, 3
Methyl Cyclohexanone	Methyl Anon	$CH_3C_5H_9CO$	118	....	...	...	....	No	0.925	3.86	...	325	2, 3
Methyl Cycloheryl Acetate		$C_9H_{18}O_2$	147	....	...	...	....	No	....	5.37	...	....	2, 3
Methyldiethanolamine		$CH_3N(CH_2CH_2OH)_2$	....	260	...	...	....	..	1.043	4.11	...	464	3
Methylene Chloride	Dichloromethane	CH_2Cl_2	practically non-flammable		15.5 in O_2	66.9 in O_2	1185	....	No	1.336	2.93	-143	104	1, 2, 3

NAME	SYNONYMS	FORMULA	Flash Point °F.		Explosive Limits % by Vol. in Air		Auto-ignition Temp. °F.	Susceptibility to Spontaneous Heating	Specific Gravity (Water=1.00)	Vapor Density (Air=1.00)	Melting Point °F.	Boiling Point °F.	Suitable Extinguishing Agents
			Closed Cup	Open Cup	Lower	Upper							
Methyl Ethyl Ether	Methoxyethane	$CH_3OC_2H_5$	-35	....	2	10.1	374	No	0.697	2.07	....	7°0	3
Methyl Ethyl Ketone	2-Butanone	$CH_3COC_2H_5$	30	....	1.81	11.5	960	No	0.805	2.48	-123	176	3
Methyl Formate	Methyl Methanoate	CH_3OOCH	-2	....	4.5	20.00	853	No	0.975	2.07	-148	90	3
Methyl Glycol Acetate			111	....	....	....	....	No	....	4.07	....	....	3
Methyl Lactate		$(CH_3)_2CHCH_2COOCH_3$	121	....	2.2 @ 212°F.	....	725	..	1.09	....	....	2.2	3
Methyl Monochlor Acetate		$CH_2ClCOOCH_3$	116	125	....	....	....	..	1.227	3.74	....	269	3
Methyl Phthallyl Ethyl Glycollate			375	380	....	....	....	No	>1	....	....	....	1, 2, 3
Methyl Propionate		$CH_3COOC_2H_5$	28	....	....	....	....	No	0.915	3.03	-126	176	2, 3
Methyl-iso Propyl Carbinol		$C_5H_{12}O$	103	....	....	....	....	..	....	3.03	....	....	3
Methyl n-Propyl Ketone	2-Pentanone	$CH_3COC_3H_7$	45	60	1.55	8.15	....	No	0.812	2.96	-108	216	3
Methyl Salicylate	Oil of Wintergreen	$HOC_6H_4COOCH_3$	214	225	....	....	850	No	1.182	5.24	18	432	1, 2, 3
Methyl Vinyl Ketone		$CH_3COCHCH_2$	20	42	....	....	....	..	....	....	....	177	2, 3
Mineral Oil	See Lubricating Oil		....	380	....	....	....	..	....	....	....	....	1, 2, 3
Mineral Seal Oil (typical)	Signal Oil		170	255	....	....	....	No	....	....	....	....	1, 2, 3
Mineral Spirits	Turpentine Substitute		85	110	0.77 @ 212°F.	....	475	..	0.80	3.9	....	300	2, 3
Monocresyl Diphenyl Phosphate		$(C_7H_7)(C_6H_5)_2PO_4$	450	450	....	....	....	No	>1	....	....	....	1, 2, 3
Monofluorodichloromethane	Freon-21	$(CHFCl_2)$	Practically non-flammable		....	....	1026	..	....	....	....	....	.....
Monofluorotrichloromethane	Freon-11	CCl_3F	non-flammable		....	....	....	No	....	....	....	76	.....
Morpholine		$O(CH_2CH_2)_2NH$	....	100	....	....	....	..	1.001	3.00	....	262	3
Mustard Oil			566	....	....	....	....	Yes	1.02	....	....	300	1, 2, 3
Naphtha, Coal Tar	Hi-Flash Naphtha		100–110	....	....	....	900–950	No	<1	....	<-50	300–400	2, 3
Naphtha, Safety Solvent	Stoddard Solvent		100–110	....	1.1	6.0	450–500	No	0.8	....	<-50	300–400	2, 3
Naphtha, V.M. & P.	Petroleum Naphtha		20	....	0.92	6.0	450–500	No	0.75	3.75	<-50	212–320	2, 3
Naphthalene	White tar	$C_{10}H_8$	174	190	0.9	5.9	1053	No	1.145	4.42	176	424	1, 3
Naphthol, beta	B-Hydroxy Naphthalene	$C_{10}H_7OH$	307	340	....	....	....	No	1.22	4.97	252	547	1, 3
Napthylamine, alpha		$C_{10}H_7NH_2$	315	....	....	....	....	No	1.171	4.93	122	572	1, 3
Neatsfoot Oil			470	....	....	....	828	Yes	0.02	....	84–106	....	1, 2, 3
Nicotine		$C_{10}H_{14}N_2$	....	....	0.75	4.0	471	..	1.009	5.61	<175	475	3
p-Nitroaniline	Paranitraniline	$(NO_2)(NH_2)C_6H_4$	390	....	....	....	....	..	1.437	....	295	>545	1, 3
Nitroaniline, alpha			....	....	....	....	864	..	....	....	....	....	.....
Nitrobenzene	Nitrobenzol	$C_6H_5NO_2$	190	....	1.8 @ 200°F	....	924	..	1.2	4.25	42	412	1, 2, 3
Nitrocellulose (Wet with Solvent)			40	....	....	....	....	..	....	....	....	....	.....
p-Nitrochlorobenzene	p-Nitrochlorobenzol	$C_6H_4ClNO_2$	261	....	....	....	....	No	1.52	5.43	181	468	1, 3
Nitroethane		$C_2H_5NO_2$	82	106	....	....	778	..	1.052	2.58	-130	237	3
Nitroglycerin	Trinitroglycerol	$C_3H_5(NO_3)_3$	Explodes	....	....	....	518	No	1.601	7.84	....	....	.....
Nitromethane		CH_3NO_2	95	112	....	....	785	..	1.139	2.11	-19	214	3
Nitronaphthalene, alpha		$C_{10}H_7NO_2$	327	....	....	....	....	..	1.331	5.96	140	579	1, 3
1-Nitropropane		$CH_3CH_2CH_2NO_2$	....	120	....	....	789	..	1.003	3.06	-164	268	3
2-Nitropropane		$CH_3CHNO_2CH_3$	....	103	....	....	802	..	0.992	3.06	-135	248	3
Nitropyridine			....	....	....	....	725	..	....	....	413	....	1, 4
p-Nitrotoluene	Methylnitrobenzene	$CH_3C_6H_4NO_2$	223	....	....	....	....	..	1.286	4.72	126	460	1, 3
m-Nitro-p-Toluidine		$C_7H_6NH_2NO_3$	315	345	....	....	....	..	1.312	5.80	241	....	1, 3
Nonane-n	Nonyl Hydride	C_9H_{20}	88	....	0.74	2.9	....	No	0.718	4.41	-60	302	3
Non Ethylene Glycol Hexaricinoleate			....	530	....	....	....	..	....	....	....	....	1, 2, 3
Non Ethylene Glycol Monostearate			....	505	....	....	....	..	....	....	....	....	1, 2, 3
Octane-n	Octyl Hydride	C_8H_{18}	56	....	0.84	3.2	450	No	0.706	3.86	-69	257	2, 3
Octanes-iso (Commercial grade)		C_8H_{18}	10	....	....	....	....	No	0.751	3.93	....	210	2, 3
Octyl Acetate-n	2-Ethylhexyl Acetate	$C_4H_9CHC_2H_5CH_2COOCH_3$	180	190	....	....	....	No	0.885	5.93	-37	410	1, 2, 3
p-Octyl Alcohol-n.	1-Octanol	$CH_3(CH_2)_6CH_2OH$	178	....	....	....	....	No	0.827	4.48	3	381	2, 3
Octyl Aldehyde	2-Ethylhexanal	$C_7H_{15}CHO$	125	....	....	....	....	No	0.821	4.41	....	350	2, 3
Octylene Glycol	4, 5 Octane Diol	$[CH_3(CH_2)_2CHOH]_2$	230	265	....	....	635	..	0.939–0.943	5.05	....	475	1, 2, 3
Oleic Acid	Red Oil	$C_{17}H_{33}COOH$	372	....	....	....	685	Yes	0.891	....	13	432	1, 2, 3
Oleo Oil			450	....	....	....	....	Yes	0.915	....	2	464	1, 2, 3
Olive Oil	Sweet Oil		437	....	....	....	826	Yes	0.910	....	21	....	1, 2, 3
Ozokerite	Mineral Wax		236	315	....	....	....	No	0.85–0.95	....	136–230	....	1, 3
Paint Liquid			0–80	....	....	....	....	Yes	....	....	....	....	2, 3
Palm Oil	Palm Butter		421	....	....	....	650	Yes	0.92	....	80–110	....	1, 2, 3
Palm Kernel Oil	Palm Nut Oil		398	....	....	....	....	Yes	0.95	....	78–86	....	1, 2, 3
Paraffin Oil	See Lubricating Oil		....	....	....	....	....	..	....	....	....	....	.....
Paraffin Wax			390	430	....	....	473	No	0.88–0.92	....	110–140	>700	1, 3
Paraformaldehyde	Paraform	$HO(CH_2O)nH$	158	200	....	....	572	No	....	....	sub. >100	....	1, 3
Paraldehyde	2, 4, 6-Trimethyl-1, 3, 5-trioxane	$(CH_3CHO)_3$	63	....	1.3	....	460	..	....	4.55	....	255	1, 3
Peanut Oil	Katchung Oil		540	....	....	....	833	Yes	0.92	....	37	....	1, 2, 3
Pent-Acetate	Amyl Acetates (Mixture)		98	105	....	....	....	..	0.86–0.87	....	....	260	2, 3
Pentane-n	Amyl Hydride	$CH_3CH_2CH_2CH_2CH_3$	<-40	....	1.4	8.0	588	No	0.631	2.48	-206	97	2, 3
Pentane-iso (Comm. grade)	Iso-amyl Hydride	C_5H_{12}	<-60	....	....	....	....	..	0.625	2.48	....	80–86	2, 3
Pentanedione		$CH_3COCH_2COCH_3$	....	105	....	....	....	..	0.975	3.45	....	284	3
Pentaphen	p-ter-Amylphenol	$C_5H_{11}C_6H_4OH$	....	232	....	....	....	..	0.91–0.94	....	195	482	1, 2, 3
Perilla Oil			522	....	....	....	....	Yes	0.93–0.94	....	23	....	1, 2, 3
Petrohol 91%			66	....	....	....	895	..	....	....	....	....	3
Petrohol 98%			59	....	....	....	845	..	....	....	....	....	3
Petroleum, Crude			20–90	....	....	....	....	No	<1	....	....	....	2, 3
Petroleum Ether	Petroleum Naphtha, Benzine		-50	....	1.4	5.9	475	No	0.63–0.66	2.50	<-100	100–160	2, 3
Petroleum Sulfonate	Petronate		....	400	....	....	....	..	....	....	....	....	1, 2, 3
Phenanthrene	Phenanthrin	$C_{14}H_{10}$	....	....	....	....	....	No	1.063	6.14	212	644	1, 2, 3
Phenol	Carbolic Acid	C_6H_5OH	175	185	....	....	1319	No	1.07	3.24	108	358	1, 3
Phenyl Cellosolve	Ethylene Glycol Monophenyl Ether	$C_6H_5OC_2H_4OH$	....	250	....	....	....	No	1.109	....	....	473	3

NAME	SYNONYMS	FORMULA	Flash Point °F.		Explosive Limits % by Vol. in Air		Auto-ignition Temp. °F.	Susceptibility to Spontaneous Heating	Specific Gravity (Water=1.00)	Vapor Density (Air=1.00)	Melting Point °F.	Boiling Point °F.	Suitable Extinguishing Agents
			Closed Cup	Open Cup	Lower	Upper							
Phenyldiethanolamine		$C_6H_5N(CH_2CH_2OH)_2$	....	375	...	...	....	..	1.1203	....	136	....	1, 3
p-Phenylene Diamine	Diaminobenzene	$C_6H_4(NH_2)_2$	312	....	...	...	....	No	....	3.72	284	512	1, 3
Phenylethanolamine		$C_6H_5NHCH_2CH_2OH$	....	305	...	...	....	..	1.097	....	....	545	1, 2, 3
Phenyl Ethyl Alcohol	Benzyl Carbinol	$C_6H_5CH_2CH_2OH$	216	....	...	...	....	No	1.024	4.21	-16	430	1, 2, 3
Phorone	2, 6, Dimethyl-2-5 Heptadien-4-One	$(CH_3)_2CCHCOCHC(CH_3)_2$	....	185	...	...	....	..	0.879	....	82	388	1, 2, 3
Phorone-iso	3, 5, 5-Trimethyl-cyclohexene-2-one-1	$COCHCCH_3CH_2C(CH_3)_2CH_2$	....	205	...	...	....	..	0.923	4.77	....	419	1, 3
Phosphorus (Red)		P	....	....	...	...	500	No	2.30	....	1337	....	1
Phosphorus (Yellow)		P	....	....	...	...	86	No	1.82	....	112	549	1
Phosphorus Sesquisulfide	Tetraphosphorus Trisulfide	P_4S_3	....	....	...	...	212	No	2.03	....	342	765	1
Phthalic Anhydride		$C_6H_4(CO)_2O$	305	330	...	...	1083	No	1.527	5.10	262	543	1,3
Picoline, alpha	Alpha-methyl-pyridine	$C_6H_4NCH_3$	....	85	...	...	1000	..	0.952	....	....	262	3
Picric Acid	Trinitrophenol	$(NO_2)_3C_6H_2(OH)$	Explodes	....	...	...	<572	No	1.763	7.90	250	....	1
Pine Oil			172	175	...	...	....	Yes	0.86	....	....	....	1, 2, 3
Pine Pitch			285	....	...	...	....	Yes	..	....	148	490	1, 3
Pinene, alpha		$C_{10}H_{16}$	91	....	...	...	....	..	0.86	....	....	312	2, 3
Pine Resin	Colophony		370	430	...	...	....	Yes	1.08	....	212-300	....	1, 3
Pine Tar			130	255	...	...	671	Yes	....	....	...	208	2, 3
Pine Tar Oil	Wood Tar Oil		144	....	...	...	....	Yes	0.862	....	...	....	3
Polyamyl Naphthalene			....	360	...	...	....	..	0.92-0.93	....	...	....	1, 2, 3
Polychloropentanes			....	175	...	...	....	..	1.33	....	...	345	1, 2, 3
Polyethylene Glycol 200 Mixture of Polymers			....	350	...	...	....	..	1.12	....	...	....	1, 3
Polyethylene Glycol 300 Mixture of Polymers			....	385	...	...	....	..	1.13	....	...	....	1, 3
Polyethylene Glycol 400 Mixture of Polymers			....	435	...	...	....	..	1.13	....	...	....	1, 3
Polyethylene Glycol 600			....	475	...	...	....	..	1.13	....	...	....	1, 3
Polyvinyl Alcohol Mixture of Polymers			....	175	...	...	....	..	....	....	...	....	1, 3
Potassium*		K	....	....	...	...	....	No	0.862	....	144	1396	5
Potassium Xanthate	Potassium Ethylxanthate	$KC_2H_5OS_2$	205	....	...	9.5	....	No	1.558	....	d.>392	....	1, 3
Propanalamine-iso		$CH_3CH(OH)CH_2NH_2$	....	160	...	...	....	..	0.9619	2.58	...	318	1, 3
Propane	Dimethylmethane	C_3H_8	gas	....	2.3	7.3	874	No	....	1.56	-310	-45	4
Propionic Anhydride	Propanoic Anhydride	$(CH_3CH_2CO)_2O$	....	165	...	...	....	..	1.012	4.49	....	336	1, 3
Propyl Acetate-n		$C_3H_7OOCCH_3$	58	70	1.77	8.0	....	No	0.866	3.52	-134	215	2, 3
Propyl Acetate-iso.		$CH_3COOCH(CH_3)_2$	43	60	1.78	7.8	860	No	0.877	3.52	-99	194	2, 3
Propyl Alcohol-n	Propanol-1	$CH_3CH_2CH_2OH$	59	85	2.15	13.5	812	No	0.804	2.07	-197	207	3
Propyl Alcohol-iso.	Propanol-2	$CH_3CHOHCH_3$	53	60	2.5	...	852	No	0.789	2.07	-122	181	3
Propyl Amine-iso.		$(CH_3)_2CHNH_2$	....	-15	...	...	....	..	0.686	2.00	...	138.2	1, 3
Propyl Benzene-n.	1-Phenylpropane	$C_3H_7C_6H_5$	86	....	...	...	....	No	0.862	4.14	-152	316	2, 3
Propyl Benzene-iso.	Cumene	$C_6H_5CH(CH_3)_2$	102	....	...	...	....	No	0.864	4.14	-152	311	2, 3
Propyl Chloride-n.	1-Chloropropane	C_3H_7Cl	<0	....	2.6	10.5	....	..	0.890	2.71	-188	115	3
Propyl Chloride-iso	2-Chloropropane	$CH_3CHClCH_3$	-26	....	2.8	10.7	1100	No	0.869	2.71	-170	95	3
Propylene	Propene	C_3H_6	gas	....	2.0	11.1	927-952	No	....	1.49	-301	-58	4
Propylene Chlorohydrin	1-Chloro-2-Propanol	$CH_3CHOHCH_2Cl$	125	....	...	...	....	No	1.113	3.26	...	261	3
Propylenediamine (anhydrous)	1, 2-Diaminopropane	$CH_3CH(NH_2)CH_2NH_2$	....	120	...	...	....	..	0.873	2.56	....	246	3
Propylene Dichloride	Dichloropropane-1, 2	$CH_3CHClCH_2Cl$	59	65	3.4	14.5	1035	No	1.15	3.89	<-112	205	2, 3
Propylene Glycol	1-2 Dihydroxypropane	$CH_3CHOHCH_2OH$	210	225	2.62	12.55	790	No	1.040	2.62	...	370	1, 3
Propylene Oxide	1-2 Epoxypropane	CH_3CHOCH_2	-35	....	2.1	21.5	....	No	0.859	2.00	....	95	3
Propyl Ether-iso.	2-isopropoxypropane	$(CH_3)_2CHOCH(CH_3)_2$	-18	-15	...	...	830	No	0.73	3.52	<-76	156	2, 3
Propyl Formate-n.	Propyl Methanoate	C_3H_7OOCH	27	....	...	...	....	No	0.909	3.03	-135	178	2, 3
Propyl Formate-iso.	Isopropyl Methanoate	$(CH_3)_2CHOOCH$	22	....	...	...	....	No	0.873	3.03	...	153	2, 3
Pyridine		$CH(CHCH)_2N$	68	....	1.8	12.4	1065	No	0.982	2.73	-44	239	3
Propyl Propionate-n.		$CH_3CH_2COOCH_2CH_2CH_3$	....	175	...	...	....	No	0.885	....	-104	245	1, 2, 3
Pyrocatechol	1, 2-Benzenediol	$C_6H_4(OH)_2$	261	....	...	...	....	No	1.344	3.79	221	474	1, 3
Quenching Oil			365	405	...	...	....	No	0.9	....	....	....	1, 2, 3
Rape Seed Oil	Colza Oil		325	550	...	...	836	Yes	0.915	....	63	....	1, 2, 3
Resorcinol	1, 3-Benzenediol	$C_6H_4(OH)_2$	261	....	...	...	....	No	1.272	3.79	230	529	1, 3
Rosin Oil	Retinol		266	....	...	...	648	Yes	0.98-1.1	....	...	>680	1, 2, 3
Rubber Cement			50 or less	....	...	...	....	..	....	....	....	....	1, 2, 3
Rum			77	....	...	...	....	..	....	....	....	....	3
Signal Oil	Mineral Seal Oil		200	....	...	...	....	..	....	....	....	....	1, 2, 3
Sodium*		Na	....	....	...	...	....	No	0.97	....	208	1612	5
Soya Bean Oil			540	....	...	...	833	Yes	0.925	....	72	....	1, 2, 3
Sperm Oil No. 1			428	....	...	...	586	..	....	....	....	....	1, 2, 3
No. 2			460	....	...	...	....	..	....	....	....	....	....
Stearic Acid	Octadecanoic Acid	$CH_3(CH_2)_{16}COOH$	385	425	...	...	743	Yes	0.847	9.80	157	726	1, 3
Straw Oil	See Lubricating Oil		315-361	....	...	...	....	..	....	....	...	....	1, 2, 3
Styrene	Vinylbensene	$C_6H_5CHCH_2$	90	....	1.1	6.1	914	..	0.907	3.60	-24	295	2, 3
Sulfur		S	405	440	...	...	450	No	2.046	....	234	832	1
Sulfur Chloride		S_2Cl_2	245	None	...	...	453	No	1.687	4.66	-112	280	1, 3
Tallow			509	....	...	...	....	Yes	0.895	....	88-100	....	1, 3
Tallow Oil			492	....	...	...	....	Yes	0.914	....	109	....	1, 3
Tannic Acid	Tannin	$C_{14}H_{10}O_9$	....	390	...	...	980	No	....	....	d.392	....	1
Tartaric Acid	Racemic Acid	$HOOC(CHOH)_2COOH.H_2O$	....	410	...	...	802	No	1.667	....	284	....	1
Terphenyl-o	1, 2-Diphenylbensene	$C_6H_4(C_6H_5)_2$	....	325	...	...	....	..	1.14	7.95	...	630	1, 3
Terphenyl-m.	1, 3-Diphenylbensene	$C_6H_4(C_6H_5)_2$	....	375	...	...	....	..	1.164	7.95	188	685	1, 3
Terphenyl-p.	1, 4-Diphenylbensene	$C_6H_4(C_6H_5)_2$	....	405	...	...	....	..	1.236	7.95	415	759	1, 3
Tetrachloroethylene	Perchlorethylene	CCl_2CCl_2	non-flammable				....	No	1.623	5.72	-8	248	.....
Tetradecane		$C_{14}H_{30}$	212	....	0.5	...	....	No	0.765	6.86	41	486	1, 2, 3
Tetradecanol	Tetradecyl Alcohol	$C_{14}H_{29}OH$	....	285	...	...	....	No	0.835	7.39	...	507	1, 2, 3
Tetraethylene Glycol		$HO(C_2H_4O)_3C_2H_4OH$	....	345	...	...	....	No	1.126	....	....	621	1, 3
Tetraethylenepentamine		$NH_2(CH_2CH_2NH)_2CH_2CH_2NH_2$	....	325	...	...	....	..	0.998	6.53	...	631	1, 3
Tetrahydrofurfuryl Alcohol		$C_4H_7O.CH_2OH$	165-176	....	...	...	....	..	....	3.52	...	....	.....
Tetrahydronaphthalene	Tetralin	$C_{10}H_{12}$	171	180	...	...	....	No	0.973	4.55	-24	403	1, 2, 3
Thialdine	5, 6-Dihydro-2, 4, 6-Trimethyl-1, 3, 5-Dithiazine	$SCH(CH_3)SCH(CH_3)NHCHCH_3$	....	200	...	...	....	..	1.06	5.63	112	d.	1, 2, 3

NAME	SYNONYMS	FORMULA	Flash Point °F.		Explosive Limits % by Vol. in Air		Auto-ignition Temp. °F.	Susceptibility to Spontaneous Heating	Specific Gravity (Water=1.00)	Vapor Density (Air=1.00)	Melting Point °F.	Boiling Point °F.	Suitable Extinguishing Agents
			Closed Cup	Open Cup	Lower	Upper							
Tin Tetramethyl		$Sn(CH_3)_4$	....	....	1.9	...	....	No	1.314	....	...	172	2, 3
Toluene	Methylbenzene	$C_6H_5CH_3$	40	45	1.27	7.0	1026	No	0.866	3.14	-134	232	2, 3
o-Toluidine	o-Methylaniline	$CH_3C_6H_4NH_2$	185	....	...	...	900	No	0.999	3.69	3	392	1, 2, 3
p-Toluidine	p-Methylaniline	$CH_3C_6H_4NH_2$	188	205	...	...	900	No	0.973	3.69	111	392	1, 2, 3
o-Tolyl p-Toluene Sulfonate		$C_{14}H_{14}O_3S$	363	....	...	...	....	..	....	....	....	....	1, 3
Transil Oil	Transformer Oil		....	295	...	...	....	No	0.9	....	...	....	1, 2, 3
Triamylamine		$(C_5H_{11})_3N$	....	215	...	...	....	..	0.79–0.80	7.88	...	453	1, 2, 3
Triamyl Benzene		$(C_5H_{11})_3C_6H_3$	....	270	...	...	....	No	0.87	....	...	575	1, 2, 3
Triamyl Borate		$B(C_5H_{11}O)_3$	....	180	...	...	....	No	0.845	....	...	430	1, 2, 3
Tributylamine		$(C_4H_9)_3N$	....	185	...	...	....	..	0.78–0.79	6.38	<-94	417	1, 2, 3
Tributyl Citrate		$(CH_2COOC_4H_9)_2COHCOOC_4H_9$	315	365	...	...	695	..	....	12.41	-4	450	1, 3
Tributyl Phosphate		$(C_4H_9)_3PO_4$	....	295	...	...	....	No	0.973	9.20	<-112	560	1, 2, 3
Trichlorobenzene	Trichlorobenzol	$C_6H_3Cl_3$	....	210	...	...	....	No	1.45	....	46	415	1, 2, 3
Trichloroethylene		$CHClCCl_2$	practically non-flammable		...	...	....	No	1.47	4.53	-99	189	.....
o-Tricresyl Phosphate	o-Tolyl Phosphate	$(CH_3C_6H_4)_3PO_4$	460	504	...	...	....	No	....	....	...	d.770	1, 2, 3
Triethanolamine		$(CH_2CH_2OH)_3N$	355	365	...	...	....	No	1.13	5.14	68	650	1, 3
Triethylamine		$(C_2H_5)_3N$	....	20	...	...	....	..	0.73	3.48	...	185	2, 3
Triethylene Glycol	Dicaproate	$(CH_2OCH_2CH_2OH)_2$	350	385	0.89	9.20	700	No	1.125	5.17	23	550	1, 3
Triethylene Tetramine		$H_2NCH_2(CH_2NHCH_2)_2CH_2NH_2$	275	290	...	...	640	No	0.982	....	54	532	1, 3
Trifluorotrichloromethane	Freon-113	$(C_2F_3Cl_3)$	practically non-flammable		...	...	1236	..	....	....	...	....	.....
Triglycol Dichloride		$ClCH_2(CH_2OCH_2)_2CH_2Cl$	....	250	...	...	....	No	1.197	....	...	466	1, 3
Triisopropanolamine		$[(CH_3)_2COH]_3N$	....	305	...	...	....	No	1.020	....	...	570	1, 3
Trimethylcyclohexanol	3, 3, 5-Trimethyl cyclohexanol-1	$CH_2CH(CH_3)CH_2C(CH_3)_2CH_2CHOH$	....	165	...	...	....	..	0.878	4.91	...	388	1, 2, 3
Trioxane		$(CH_2O)_3$	113	....	3.57	28.70	777	..	....	....	147	Sub. 239	2, 3
Triphenyl Phosphate		$(C_6H_5)_3PO_4$	428	....	...	...	....	No	....	....	122	750	1, 3
Tung Oil	China Wood Oil		552	....	...	...	855	Yes	0.94	....	88	....	1, 3
Turkey Red Oil			476	....	...	...	833	No	....	....	...	....	1, 2, 3
Turpentine			95	....	0.8	...	488	Yes	<1	4.84	...	300	2, 3
Ultrasene	Kerosene (deodorized)		175	180	...	...	....	..	....	....	...	....	1, 2, 3
Undecanol	5-Ethylnonanol-2	$C_4H_9CH(C_2H_5)C_2H_4CH(OH)CH_2$	....	235	...	...	....	..	0.836	5.94	...	437	1, 2, 3
Varnish			<80	....	...	...	....	..	....	....	...	....	2, 3
Varnish Shellac			40–70	....	...	...	....	..	....	....	...	....	3
Varnoline	Safety Solvent		109	130	...	...	....	..	....	....	...	....	2, 3
Vegetable Oil, Hydrogenated			....	610	...	...	....	..	<1	....	...	....	3
Vinyl Acetate		$CH_3COOCHCH_2$	18	30	...	...	800	No	....	....	<-76	161	2, 3
Vinyl Chloride	Chloroethene	CH_2CHCl	gas	<0	4	22	....	No	0.97	2.15	-256	7	3
Vinyl Cyclohexene	4-Vinyl Cyclohexene-1	C_8H_{12}	61	74	...	...	517	..	0.830	....	...	266	.....
Vinylidene Chloride	1, 1-Dichloroethylene		14	....	7	16	d.	..	1.25	....	...	99	.....
Vinyl Ethyl Ether			<-50	....	...	...	895	..	....	....	...	....	.....
Vinyl 2-Ethylhexyl Ether			116	140	...	...	895	..	....	....	...	....	.....
Vinyl Isopropyl Ether			-26	....	...	...	522	..	....	....	....	....	.....
Whale Oil			446	....	...	...	800	Yes	0.925	....	32	....	1, 2, 3
Whiskey			82	....	...	...	....	..	....	....	...	....	3
Wines													
Sherry & Port			129	....	...	...	....	..	....	....	...	....	3
High			60-80	....	...	...	....	..	....	....	...	....	3
o-Xylene	o-Xylol	$C_6H_4(CH_3)_2$	63	75	1.0	6.0	924	No	0.88	3.66	-17	291	2, 3
o-Xylidine	o-Dimethyl Aniline	$(CH_3)_2C_6H_3NH_2$	206	....	...	...	....	No	0.99	4.17	<5	435	1, 2, 3
Zinc (dust or powder)*		Zn	....	....	...	...	....	No	....	....	787	1706	5
Zinc Stearate		$Zn(C_{18}H_{35}O_2)_2$	....	530	...	...	790	..	....	....	...	....	1, 2, 3
Zirconium (Powder)		Zr	....	....	...	...	500	No	....	....	3092	>5350	5