

ND = No data listed; NR = Not recommended;

Note: Chemicals are considered flammable if flashpoint is 140°F or below. Use materials of construction suitable for flammables, contact the factory with any questions on the safe pumping of flammable liquids; Note: If Viton &amp; EPDM are NR, contact the factory for an alternative recommendation. Note: Consult specific model specifications for temperature limits, pump may have a lower limitation than value shown in the chart;

Warning: The information in this chart is to be used only as a guide. FTI does not warrant (neither express or implied) that the information in this chart is accurate or complete.

Chemical Name	Molecular Formula	Flashpoint (°F)	Flammable	Concentration	Specific Gravity	CPVC	Polypropylene	Glass-Filled	PVDF	ETFE	PTFE	316 Steel	Hastelloy C-276	Titanium	Carbon	Ceramic	Silicon Carbide	EPDM	FKM
Acetamide	CH <sub>3</sub> CONH <sub>2</sub>				1.16	ND	150	75	250	500	140	70	ND	480	500	500	140	140	
Acetic Acid, 10%	HC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>			10%	1.01	212	212	225	250	500	390	257	244	70	500	500	70	NR	
Acetic Acid, 20%	HC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>			20%	1.03	176	212	200	250	500	300	257	244	70	500	500	70	NR	
Acetic Acid, 50%	HC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>			50%	1.06	100	212	200	250	500	390	257	244	244	500	500	70	NR	
Acetic Acid, 80%	HC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>			80%	1.07	NR	160	175	244	450	550	257	244	244	500	500	70	NR	
Acetic Acid, Glacial	HC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>	104°F	Yes		1.05	NR	NR	122	244	500	212	257	244	244	500	500	200	NR	
Acetone	C <sub>3</sub> H <sub>6</sub> O	-4°F	Yes		0.79	NR	NR	NR	200	500	212	248	302	212	500	500	200	NR	
Acetonitrile (Methylcyanide)	CH <sub>3</sub> CN	43°F	Yes		0.79	NR	75	125	200	500	100	70	ND	400	500	500	70	NR	
Acetylene	C <sub>2</sub> H <sub>2</sub>	63°F	Yes		0.91	ND	NR	250	250	450	140	100	ND	500	500	500	250	200	
Acrylic Acid (Propenoic Acid)	CH <sub>2</sub>	115°F	Yes		1.05	140	250	280	212	500	122	NR	ND	ND	500	500	200	NR	
Acrylonitrile	C <sub>3</sub> H <sub>3</sub> N	32°F	Yes		0.81	NR	NR	100	150	500	190	230	190	480	500	500	NR	NR	
Alcohol, Butyl	C <sub>4</sub> H <sub>10</sub> O	95°F	Yes		0.81	140	NR	275	300	500	480	200	200	480	500	500	250	250	
Alcohol, Butyl, Secondary	C <sub>4</sub> H <sub>10</sub> O	79°F	Yes		0.81	140	NR	275	300	500	480	200	200	480	500	500	70	70	
Alcohol, Ethyl	C <sub>2</sub> H <sub>5</sub> OH	57°F	Yes		0.79	180	180	280	300	500	200	212	200	500	500	500	70	70	
Alcohol, Isopropyl	C <sub>3</sub> H <sub>8</sub> OH	54°F	Yes		0.79	225	NR	158	125	500	140	212	212	500	500	500	176	212	
Alcohol, Methyl	CH <sub>3</sub> OH	52°F	Yes		0.791	180	NR	257	300	500	212	212	200	500	500	500	176	NR	
Alcohol, Propyl (Isopropyl Alcohol)	C <sub>3</sub> H <sub>8</sub> O	53°F	Yes		0.79	185	140	207	300	500	70	200	200	500	500	500	200	212	
Alcohols		60°F	Yes		0.79	185	NR	275	200	480	172	212	200	480	500	500	70	70	
Aluminum Acetate	Al(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>3</sub>				1	70	100	285	ND	480	160	250	70	480	500	500	176	NR	
Aluminum Chloride, 1%	AlCl <sub>3</sub>			1%	1.01	180	250	289	300	500	70	352	212	480	500	500	212	212	

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Aluminum Chloride, 5%	AlCl <sub>3</sub>			5%	1.04	180	250	289	300	500	NR	352	212	480	500	500	212	212	
Aluminum Chloride, 20%	AlCl <sub>3</sub>			20%	1.2	180	250	289	300	500	NR	352	212	480	500	500	212	212	
Aluminum Chloride, 40%	AlCl <sub>3</sub>			40%	1.34	120	250	289	300	500	NR	352	ND	480	500	500	212	212	
Aluminum Chloride, 100%	AlCl <sub>3</sub>			100%		120	250	289	300	500	NR	340	212	480	500	500	212	212	
Aluminum Potassium Sulfate	AlK(SO <sub>4</sub> ) <sub>2</sub> 12H <sub>2</sub> O					225	225	285	300	500	480	175	392	500	500	500	212	212	
Aluminum Sulfate	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> ·18H <sub>2</sub> O			98-100%	1.69	180	250	280	300	500	214	214	214	480	500	500	140	140	
Aluminum Sulfate	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> ·18H <sub>2</sub> O			27.80%	1.33	180	250	280	300	500	214	214	214	480	500	500	140	140	
Amines						NR	120	NR	300	480	212	200	200	480	500	500	70	NR	
Ammonia (Anhydrous)	NH <sub>3</sub>	52°F	Yes		0.68	180	NR	275	300	500	600	140	212	500	500	500	140	NR	
Ammonia Water, 10%	NH <sub>3</sub>				0.9	185	200	275	300	500	ND	ND	ND	250	500	500	140	NR	
Ammonium Bisulfide (Ammonium Sulfide)	(NH <sub>4</sub> ) <sub>2</sub> S	72°F	Yes			180	140	280	ND	400	480	70	ND	480	500	500	70	NR	
Ammonium Bromide, 5%	NH <sub>4</sub> Br					ND	ND	ND	ND	ND	70	70	ND	500	500	500	ND	ND	
Ammonium Bromide	NH <sub>4</sub> Br					ND	ND	ND	ND	ND	480	ND	ND	500	500	500	ND	ND	
Ammonium Carbonate	(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub>					180	250	280	300	500	212	185	212	500	500	500	212	212	
Ammonium Chloride	NH <sub>4</sub> Cl					140	225	280	300	500	212	212	968	500	500	500	212	212	
Ammonium Dichromate	(NH <sub>4</sub> ) <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>					ND	125	250	275	500	ND	ND	ND	ND	500	500	70	ND	
Ammonium Fluoride, 10%	NH <sub>4</sub> F			10%	1.01	225	225	280	300	500	70	175	70	480	500	500	140	140	
Ammonium Fluoride, 25%	NH <sub>4</sub> F			25%	1.01	225	225	280	300	500	NR	175	ND	480	500	500	140	140	
Ammonium Hydroxide, 10% (Ammonia Aqueous)	NH <sub>4</sub> OH			10%	0.9	212	225	280	300	500	70	200	212	97	500	500	160	70	
Ammonium Nitrate	NH <sub>4</sub> NO <sub>3</sub>					180	180	280	230	500	410	410	200	500	500	500	200	176	
Ammonium Persulfate	(NH <sub>4</sub> ) <sub>2</sub> S <sub>2</sub> O <sub>8</sub>					225	180	260	275	500	70	140	140	480	500	500	70	140	
Ammonium Phosphate (mono basic)	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>					212	225	280	200	450	70	70	140	140	500	500	140	140	
Ammonium Sulfate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>					180	180	280	300	500	480	200	480	480	500	500	200	176	
Ammonium Sulfide	(NH <sub>4</sub> ) <sub>2</sub> S	72°F	Yes		1	225	NR	280	300	500	480	70	ND	480	500	500	70	NR	
Amyl Acetate	CH <sub>3</sub> COOC <sub>5</sub> H <sub>11</sub>	77°F	Yes		0.88	NR	NR	100	250	500	480	400	200	500	500	500	200	212	
Amyl Alcohol	C <sub>5</sub> H <sub>12</sub> O	66°F	Yes		0.81	180	NR	280	250	500	480	200	200	500	500	500	200	212	
Amyl Chloride, 84-100%	C <sub>5</sub> H <sub>11</sub> Cl	-14°F	Yes			NR	NR	280	300	500	150	187	NR	400	500	500	NR	200	
Benzaldehyde	C <sub>6</sub> H <sub>5</sub> CHO	145°F			1.04	NR	NR	150	212	500	200	200	200	480	500	500	200	NR	
Benzene	C <sub>6</sub> H <sub>6</sub>	12°F	Yes		0.87	NR	NR	120	250	500	200	176	70	500	500	500	NR	158	

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Benzyl Alcohol (Benzal Chloride)	C <sub>7</sub> H <sub>8</sub> O	201°F			1.05	NR	250	280	300	500	150	ND	140	200	500	500	NR	70	
Benzyl Chloride	C <sub>6</sub> H <sub>5</sub> .CH <sub>2</sub> Cl	153°F			1.1	NR	NR	280	300	500	100	NR	ND	100	500	500	ND	ND	
Bleach, 5.5%	NaClO			5.50%	1.08	212	NR	280	300	500	ND	200	180	NR	500	500	104	130	
Bleach, 12.5%	NaClO			12.5%	1.17	212	NR	280	300	500	ND	200	180	NR	500	500	70	130	
Brine, Basic	NaCr				1.3	212	200	285	300	500	200	245	212	70	500	500	212	248	
Bromine, Liquid	Br <sub>2</sub>					NR	NR	150	135	450	NR	160	NR	NR	500	500	NR	212	
Butanol	C <sub>4</sub> H <sub>10</sub> O	84°F	Yes		0.81	140	NR	275	300	500	200	200	200	480	500	500	250	250	
Butyl Acetate	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	79°F	Yes		0.88	NR	NR	100	260	500	302	302	200	480	500	500	NR	NR	
Butyl Alcohol	(CH <sub>3</sub> ) <sub>3</sub> COH	100°F	Yes		0.78	140	NR	275	300	500	200	200	200	480	500	500	250	250	
Calcium Bisulfide	Ca(HS) <sub>2</sub>					212	212	275	300	ND	480	70	140	500	500	500	NR	176	
Calcium Bisulfite	Ca(HSO <sub>3</sub> ) <sub>2</sub>					225	180	280	300	500	ND	ND	ND	ND	500	500	NR	200	
Calcium Carbonate	CaCO <sub>3</sub>					185	248	285	300	500	480	300	300	480	500	500	140	248	
Calcium Chloride	CaCl <sub>2</sub>					212	212	285	300	500	200	212	3000	480	500	500	212	212	
Calcium Hydroxide	Ca(OH) <sub>2</sub>					212	176	280	300	500	200	140	300	500	500	500	212	212	
Carbon Disulfide	CS <sub>2</sub>	-22°F	Yes	90-100%	1.26	NR	NR	120	300	500	212	200	200	500	500	500	NR	200	
Carbon Tetrachloride	CCl <sub>4</sub>	2°F	Yes	100%	1.59	NR	NR	170	300	500	480	185	200	500	500	500	NR	NR	
Caustic Potash (See Potassium Hydroxide)	KOH				1.45	ND	180	NR	300	500	70	185	NR	350	500	500	212	NR	
Caustic Soda (See Sodium Hydroxide)	NaOH			50%	1.53	150	180	ND	250	480	125	70	NR	275	500	500	200	NR	
Chlorine Dioxide, 15%	ClO <sub>2</sub>			15%		100	NR	280	250	500	NR	110	200	NR	500	500	NR	70	
Chlorine Dioxide	ClO <sub>2</sub>	100°F	Yes			70	NR	280	250	500	NR	70	180	NR	500	500	NR	70	
Chlorine, Liquid	Cl <sub>2</sub>				1.47	NR	NR	200	250	300	NR	600	212	NR	500	500	NR	70	
Chlorobenzene	C <sub>6</sub> H <sub>5</sub> Cl	84°F	Yes		1.11	NR	NR	175	300	500	480	266	212	500	500	500	NR	200	
Chromic Acid, 10%	H <sub>2</sub> CrO <sub>4</sub>			10%	1.08	180	NR	280	212	500	180	212	482	NR	500	500	NR	70	
Chromic Acid, 20%	H <sub>2</sub> CrO <sub>4</sub>			20%	1.16	180	NR	212	200	500	212	212	482	NR	500	500	NR	70	
Chromic Acid, 40%	H <sub>2</sub> CrO <sub>4</sub>			40%	1.37	180	NR	212	200	500	212	212	482	NR	500	500	NR	70	
Chromic Acid, 50%	H <sub>2</sub> CrO <sub>4</sub>			50%	1.51	180	NR	185	232	500	212	200	482	NR	500	500	NR	70	
Citric Acid	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	345°F				212	180	275	300	500	302	374	70	212	500	500	212	350	
Copper Sulfate	CuSO <sub>4</sub> 5H <sub>2</sub> O					180	180	285	300	500	160	212	70	70	500	500	176	140	
Cyclohexane	C <sub>6</sub> H <sub>12</sub>	-4°F	Yes		0.78	NR	NR	212	300	500	480	200	300	500	500	500	NR	200	
Diethylamine	C <sub>4</sub> H <sub>11</sub> N	-38°F	Yes		0.71	NR	NR	70	230	500	140	85	NR	500	500	500	160	NR	
Dimethyl Sulfoxide	C <sub>2</sub> H <sub>6</sub> OS	203°F			1.1	NR	NR	NR	212	500	ND	ND	ND	ND	500	500	ND	NR	

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Dimethylamine	C <sub>2</sub> H <sub>7</sub> N	-0.4°F	Yes		0.68	NR	NR	70	230	500	ND	ND	ND	ND	500	500	NR	NR	
Disodium Phosphate	HNa <sub>2</sub> PO <sub>4</sub>					180	180	280	140	500	70	70	ND	70	500	500	500	70	70
Epichlorohydrin	ClCH <sub>2</sub> C <sub>2</sub> H <sub>3</sub> O	90°F	Yes		1.18	NR	NR	NR	300	500	480	212	ND	500	500	500	500	ND	NR
Ethanol (Ethyl Alcohol)	C <sub>2</sub> H <sub>5</sub> OH	55°F	Yes		0.79	180	180	280	300	500	200	212	200	500	500	500	500	200	70
Ethyl Acetate	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	25°F	Yes		0.9	NR	NR	122	170	500	302	414	212	500	500	500	500	130	NR
Ethyl Alcohol (Ethanol)	C <sub>2</sub> H <sub>5</sub> OH	55°F	Yes		0.79	180	180	280	300	500	200	212	200	500	500	500	500	200	70
Ethylene Glycol	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub>	239°F			1.11	180	180	260	300	500	392	386	NR	480	500	500	500	212	250
Ferric Chloride	FeCl <sub>3</sub>					180	180	275	300	500	NR	175	200	340	500	500	500	212	212
Ferric Hydroxide	Fe(OH) <sub>3</sub>					212	140	250	300	400	140	185	200	100	500	500	500	200	200
Ferric Sulfate	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> nH <sub>2</sub> O			12%	1.55	180	180	275	300	500	140	200	200	500	500	500	500	200	212
Ferric Sulfide	Fe <sub>2</sub> S <sub>3</sub>					ND	ND	ND	ND	ND	ND	ND	ND	ND	500	500	500	ND	ND
Formaldehyde, 37%	CH <sub>2</sub> O	133°F	Yes	37%	1.08	176	NR	250	230	500	265	212	212	500	500	500	500	212	212
Formaldehyde, 50%	CH <sub>2</sub> O	133°F	Yes	50%		100	NR	104	200	500	600	300	200	500	500	500	500	120	176
Formic Acid	CH <sub>2</sub> O <sub>2</sub>	156°F			1.22	70	NR	214	275	500	212	200	140	340	500	500	500	200	NR
Fuel Oil						180	NR	285	300	500	480	200	200	480	500	500	500	NR	200
Furfural	C <sub>5</sub> H <sub>4</sub> O <sub>2</sub>	140°F	Yes		1.16	NR	NR	140	212	500	480	200	200	480	500	500	500	160	NR
Gasoline, Unleaded	CH <sub>3</sub> OH	-49°F	Yes		0.74	NR	NR	285	300	500	200	325	200	480	500	500	500		
Heptane	C <sub>7</sub> H <sub>16</sub>	25°F	Yes		0.68	180	NR	285	300	500	480	200	200	500	500	500	500	NR	200
Hexane	C <sub>6</sub> H <sub>14</sub>	-10°F	Yes		0.66	185	NR	285	300	500	480	257	200	500	500	500	500	NR	200
Hexyl Alcohol	C <sub>6</sub> H <sub>14</sub> O	106°F	Yes		0.82	190	NR	180	ND	300	140	140	140	480	500	500	500	200	248
Hydrochloric Acid, 2%	HCl			2%	1.01	225	225	285	300	500	NR	140	175	480	500	500	500	140	230
Hydrochloric Acid, 10%	HCl			10%	1.05	225	225	285	300	500	NR	140	160	480	500	500	500	140	230
Hydrochloric Acid, 15%	HCl			15%	1.08	225	225	285	300	500	NR	140	NR	480	500	500	500	140	230
Hydrochloric Acid, 20%	HCl			20%	1.1	212	180	285	300	500	NR	140	NR	480	500	500	500	140	230
Hydrochloric Acid, 25%	HCl			25%	1.13	212	175	285	300	500	NR	140	NR	140	500	500	500	140	140
Hydrochloric Acid, 37%	HCl			37%	1.18	NR	176	194	300	500	NR	140	NR	140	500	500	500	130	130
Hydrofluoric Acid, 30%	HF			30%	1.18	140	NR	275	300	500	NR	250	NR	NR	500	500	500	NR	212
Hydrofluoric Acid, 40%	HF			40%	1.16	100	NR	250	300	500	NR	125	NR	NR	500	500	500	NR	176
Hydrofluoric Acid, 48%	HF			48%	1.18	100	NR	250	300	500	NR	130	NR	NR	500	500	500	NR	176
Hydrofluoric Acid, 50%	HF			50%	1.2	100	NR	250	300	500	NR	130	NR	NR	500	500	500	NR	140
Hydrofluoric Acid, 70%	HF			70%	1.26	NR	NR	230	250	500	NR	130	NR	NR	500	500	500	NR	ND
Hydrofluosilicic Acid, 20%	H <sub>2</sub> SiF <sub>6</sub>			20%	1.17	212	180	280	300	500	145	185	NR	140	500	500	500	140	140

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Hydrofluosilicic Acid, 50%	H <sub>2</sub> SiF <sub>6</sub>			50%		212	180	280	300	500	70	300	NR	ND	500	500	120	70
Hydrogen Peroxide, 5%	H <sub>2</sub> O <sub>2</sub>			5%	1.0	225	176	212	250	500	212	237	237	NR	500	500	NR	176
Hydrogen Peroxide, 30%	H <sub>2</sub> O <sub>2</sub>			30%	1.19	225	NR	212	250	500	104	200	140	NR	500	500	NR	104
Hydrogen Peroxide, 50%	H <sub>2</sub> O <sub>2</sub>			50%	1.19	185	NR	250	150	500	70	200	70	NR	500	500	NR	104
Hydrogen Peroxide, 90%	H <sub>2</sub> O <sub>2</sub>			90%	1.4	NR	NR	200	150	500	125	130	70	NR	500	500	NR	104
Hydrogen Sulfide, Aqueous (wet gas)	H <sub>2</sub> S	-116°F	Yes		1.54	212	NR	250	250	500	215	170	400	80	500	500	140	NR
Isobutyl Alcohol	C <sub>4</sub> H <sub>10</sub> O	82°F	Yes		0.8	70	NR	275	275	480	480	140	140	70	500	500	160	75
Isooctane	C <sub>8</sub> H <sub>18</sub>	19°F	Yes		0.69	140	NR	275	125	300	70	70	ND	120	500	500	NR	70
Isopropanol (Isopropyl alcohol)	C <sub>3</sub> H <sub>8</sub> O	53°F	Yes		0.79	225	180	158	125	500	140	212	212	500	500	500	176	212
Kerosene		100°F	Yes		0.8	190	NR	275	300	500	70	200	200	500	500	500	NR	158
Lye Solutions (See Sodium & Potassium Hydroxide)																		
Magnesium Sulfate	MgSO <sub>4</sub>					180	180	275	300	500	200	125	200	500	500	500	176	176
Methane	CH <sub>4</sub>	292°F			0.55	212	NR	285	300	400	700	212	ND	500	500	500	NR	176
Methyl Alcohol (Methanol)	CH <sub>3</sub> OH	52°F	Yes		0.79	180	70	285	300	500	235	212	200	500	500	500	176	NR
Methyl Ethyl Ketone	C <sub>4</sub> H <sub>10</sub> O	16°F	Yes		0.83	NR	NR	NR	300	500	200	200	200	500	500	500	200	NR
Methylamine	CH <sub>3</sub> NH <sub>2</sub>	46°F	Yes		1.07	NR	NR	NR	200	400	140	70	ND	400	500	500	70	NR
Monoethanolamine	C <sub>2</sub> H <sub>7</sub> NO	185°F			1.02	NR	NR	NR	200	500	212	200	200	500	500	500	200	NR
Naphtha	NA	50°F	Yes		0.76	180	NR	285	300	500	320	200	200	500	500	500	NR	158
Nickel Acetate	Ni(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub> ·4H <sub>2</sub> O					180	180	250	ND	480	70	ND	ND	70	500	500	70	NR
Nickel Chloride	NiCl <sub>2</sub>					225	225	275	300	500	70	200	200	500	500	500	212	212
Nickel Nitrate	Ni(NO <sub>3</sub> ) <sub>2</sub> ·6H <sub>2</sub> O					180	180	280	300	500	414	70	70	70	500	500	212	248
Nickel Sulfate (Nickel Salt)	NiSO <sub>4</sub> ·6H <sub>2</sub> O					180	180	285	300	500	200	212	200	500	500	500	212	217
Nitric Acid, 10%	HNO <sub>3</sub>			10%	1.05	225	NR	280	212	500	181	185	250	NR	500	500	104	140
Nitric Acid, 25-35%	HNO <sub>3</sub>			25-35%	1.21	140	NR	160	212	500	181	140	250	NR	500	500	104	140
Nitric Acid, 40%	HNO <sub>3</sub>			40%	1.25	140	NR	160	212	500	181	140	250	NR	500	500	NR	140
Nitric Acid, 50%	HNO <sub>3</sub>			50%	1.31	140	NR	150	221	500	181	140	250	NR	500	500	NR	140
Nitric Acid, 70%	HNO <sub>3</sub>			70%	1.41	70	NR	140	200	500	120	NR	70	NR	500	500	NR	140
Nitric Acid, 90%	HNO <sub>3</sub>			90%	1.48	NR	NR	140	122	500	120	NR	140	NR	500	500	NR	158
Nitric Acid, White Fuming	HNO <sub>3</sub>				1.5	NR	NR	70	122	500	ND	ND	ND	ND	500	500	NR	120

Chemical Name	Molecular Formula	Flashpoint (° F)	Flammable	Concentration	Specific Gravity	CPVC	Glass-Filled Polypropylene	PVDF	ETFE	PTFE	316 Steel	316 Stainless Steel	Hastelloy C C-276	Titanium	Carbon	Ceramic	Silicon Carbide	EPDM	FKM
Octane	C <sub>8</sub> H <sub>18</sub>	59°F	Yes		0.7	ND	NR	285	300	500	70	70	ND	ND	500	500	500	NR	70
Octanol, 1 (Octyle Alcohol)	C <sub>8</sub> H <sub>18</sub>	178°F			0.83	100	250	285	ND	500	480	140	140	500	500	500	500	160	70
Oxalic Acid	C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> 2H <sub>2</sub> O				1.65	180	140	125	300	500	140	140	NR	320	500	500	500	250	140
Peracetic Acid, 40%	C <sub>2</sub> H <sub>4</sub> O <sub>3</sub>	115°F	Yes	40%	1.23	NR	NR	70	ND	500	ND	ND	ND	ND	500	500	500	ND	ND
Perchloric Acid, 10%	HClO <sub>4</sub>			10%	1.06	225	180	250	230	500	NR	ND	100	70	500	500	500	140	140
Perchloric Acid, 70%	HClO <sub>4</sub>	235°F		70%	1.68	185	NR	212	200	500	NR	212	NR	70	500	500	500	140	140
Phenol	C <sub>6</sub> H <sub>5</sub> OH	174°F			1.07	185	NR	170	250	500	414	358	414	500	500	500	500	NR	140
Phosphoric Acid, 10% (Air Free)	H <sub>3</sub> PO <sub>4</sub>			10%	1.05	212	225	316	300	500	316	150	140	500	500	500	500	212	212
Phosphoric Acid, 25% (Air Free)	H <sub>3</sub> PO <sub>4</sub>			25%	1.45	212	225	316	300	500	316	150	140	500	500	500	500	212	212
Phosphoric Acid, 50% (Air Free)	H <sub>3</sub> PO <sub>4</sub>			50%	1.34	212	225	316	275	500	221	150	NR	500	500	500	500	176	212
Phosphoric Acid, 70% (Air Free)	H <sub>3</sub> PO <sub>4</sub>			70%	1.53	212	225	316	275	500	221	200	NR	500	500	500	500	176	212
Phosphoric Acid, 85% (Air Free)	H <sub>3</sub> PO <sub>4</sub>			85%	1.69	212	212	316	275	500	150	150	NR	500	500	500	500	176	212
Plating Solutions, Brass						180	180	248	275	500	140	100	100	100	100	NR	500	70	140
Plating Solutions, Cadmium (Cyanide)						180	180	248	275	500	140	90	90	70	500	500	500	70	140
Plating Solutions, Chrome (Chromic Sulfuric)						180	70	260	275	500	NR	NR	130	NR	500	500	500	70	140
Plating Solutions, Copper (Sulfate)						225	225	212	275	500	NR	NR	ND	70	500	500	500	200	140
Plating Solutions, Gold (Cyanide)						225	180	250	275	500	150	150	150	140	500	500	500	70	150
Plating Solutions, Iron (Sulfate)						180	175	200	ND	500	NR	150	150	140	500	500	500	ND	140
Plating Solutions, Lead (Alkali)						180	180	250	250	500	70	70	NR	140	500	500	500	70	140
Plating Solutions, Nickel (Chloride)						180	225	250	250	500	70	160	160	480	500	500	500	70	140
Plating Solutions, Rhodium						212	180	250	250	500	ND	ND	ND	ND	500	500	500	120	70
Plating Solutions, Silver						180	180	250	250	500	140	120	120	140	500	500	500	120	140
Plating Solutions, Speculum						ND	ND	ND	ND	ND	ND	ND	ND	ND	500	500	500	ND	ND

Chemical Name	Molecular Formula	Flashpoint (° F)	Flammable	Concentration	Specific Gravity	CPVC	Glass-Filled Polypropylene	PVDF	ETFE	PTFE	316 Steel	Hastelloy C-276	Titanium	Carbon	Ceramic	Silicon Carbide	EPDM	FKM	
Plating Solutions, Tin (Acid & Fluoborate)							180	180	212	250	500	70	125	NR	480	500	500	140	176
Plating Solutions, Zinc (Acid Chloride)							180	180	250	250	500	NR	NR	140	480	500	500	70	140
Potassium Bicarbonate	KHCO <sub>3</sub>						180	70	275	300	500	480	130	70	500	500	500	176	212
Potassium Bisulfate	KHSO <sub>4</sub>						180	250	285	ND	500	70	ND	ND	ND	500	500	176	212
Potassium Bromide	KBr						180	180	285	300	500	185	70	200	480	NR	500	200	212
Potassium Chlorate	KClO <sub>3</sub>						180	212	212	300	500	673	480	200	200	500	500	200	200
Potassium Chloride	KCl						180	180	285	300	500	140	347	212	200	500	500	212	212
Potassium Cyanate	KCNO						ND	70	ND	ND	70	ND	ND	ND	ND	500	500	ND	ND
Potassium Cyanide	KCN						180	180	285	300	500	140	140	200	500	NR	500	200	70
Potassium Hydroxide, 25%	KOH			25%	1.24		180	180	140	212	500	212	200	175	500	500	500	212	NR
Potassium Hydroxide, 35%	KOH			35%	1.34		180	180	NR	212	500	150	200	70	500	500	500	200	NR
Potassium Hydroxide, 50%	KOH			50%	1.51		180	180	NR	212	500	150	200	70	500	500	500	200	NR
Potassium Permanganate	KMnO <sub>4</sub>						180	70	250	300	500	130	70	200	480	500	500	200	140
Potassium Permanganate, 10%	KMnO <sub>4</sub>			10%			180	180	280	300	500	212	212	200	500	500	500	200	140
Potassium Permanganate, 25%	KMnO <sub>4</sub>			25%			180	180	280	300	500	70	212	200	500	500	500	200	140
Potassium Sulfide	K <sub>2</sub> S		Yes				180	NR	285	300	500	100	70	70	500	500	500	70	70
Potassium Sulfite (Sulfurous Acid)	K <sub>2</sub> SO <sub>3</sub>						70	140	212	ND	300	70	375	185	70	500	500	70	70
Propanol (Propyl Alcohol)	C <sub>3</sub> H <sub>8</sub> O	53°F	Yes		0.79		140	NR	150	300	500	356	200	200	500	500	500	200	212
Propionic Acid	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	129°F	Yes		0.99		140	NR	280	212	500	340	286	NR	500	500	500	200	NR
Propyl Alcohol (propanol)	C <sub>3</sub> H <sub>8</sub> O	54°F	Yes		0.79		185	NR	150	300	500	356	200	200	500	500	500	200	212
Salicylic Acid	C <sub>7</sub> H <sub>6</sub> O <sub>3</sub>	315°F			1.44		200	180	230	300	500	212	258	248	500	500	500	200	70
Sea Water	H <sub>2</sub> O				1.03		212	225	285	300	500	250	300	213	340	500	500	200	212
Silver Nitrate, 0-60%	AgNO <sub>3</sub>			0%-60%			180	180	285	300	500	125	70	70	500	500	500	176	200
Silver Nitrate, 100%	AgNO <sub>3</sub>			100%			180	180	285	300	500	125	200	200	500	500	500	176	200
Silver Sulfate	Ag <sub>2</sub> SO <sub>4</sub>						180	140	250	ND	ND	ND	ND	ND	ND	500	500	176	212
Sodium Benzoate	C <sub>7</sub> H <sub>5</sub> NaO <sub>2</sub>	212°F					180	NR	285	300	500	ND	100	70	340	500	500	70	70
Sodium Bicarbonate	NaHCO <sub>3</sub>						180	180	285	300	500	150	150	200	500	500	500	212	212
Sodium Bichromate	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> · 2H <sub>2</sub> O						180	180	275	300	500	150	100	70	500	500	500	176	212
Sodium Bisulfate	NaHSO <sub>4</sub> · H <sub>2</sub> O						180	180	285	300	500	480	140	136	500	500	500	200	212

Chemical Name	Molecular Formula	Flashpoint (° F)	Flammable	Concentration	Specific Gravity	CPVC	Polypropylene	PVDF	ETFE	PTFE	316 Steel	Hastelloy C-276	Titanium	Carbon	Ceramic	Silicon Carbide	EPDM	FKM	
Sodium Bisulfite	NaHSO <sub>3</sub>						180	180	285	300	500	100	212	140	500	500	500	212	212
Sodium Borate	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> .10H <sub>2</sub> O						176	212	275	300	500	150	200	200	500	500	500	140	176
Sodium Bromate	NaBrO <sub>3</sub>						185	175	280	300	500	ND	ND	ND	ND	500	500	ND	ND
Sodium Bromide	NaBr						180	180	285	300	500	480	70	70	500	500	500	70	70
Sodium Carbonate	Na <sub>2</sub> CO <sub>3</sub>						180	180	285	300	500	212	212	140	500	500	500	212	212
Sodium Chlorate 25%	NaClO <sub>3</sub>			25%			180	180	285	300	500	70	212	70	130	500	500	200	200
Sodium Chlorate 50-60%	NaClO <sub>3</sub>			50%-60%			180	180	285	300	500	NR	212	ND	ND	500	500	200	200
Sodium Chlorate 60-70%	NaClO <sub>3</sub>			60%-70%			180	180	285	300	500	212	212	ND	ND	500	500	200	200
Sodium Chlorate 70-80%	NaClO <sub>3</sub>			70%-80%			180	180	285	300	500	212	212	ND	ND	500	500	200	200
Sodium Chlorate 80-100%	NaClO <sub>3</sub>			80%-100%			180	180	285	300	500	140	140	220	140	500	500	200	200
Sodium Chloride	NaCl						180	180	285	300	500	212	176	140	500	500	500	176	212
Sodium Chlorite	NaClO <sub>2</sub>						ND	200	250	300	500	ND	ND	ND	ND	500	500	NR	NR
Sodium Chromate	Na <sub>2</sub> CrO <sub>4</sub> 4H <sub>2</sub> O						190	175	280	300	500	70	212	ND	340	500	500	ND	140
Sodium Cyanide	NaCN						180	180	275	300	500	140	200	200	500	500	500	176	176
Sodium Dichromate	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> 2H <sub>2</sub> O						70	NR	120	100	300	ND	ND	ND	ND	500	500	70	70
Sodium Dithionite 12% (sodium hydrosulfite )	Na <sub>2</sub> S <sub>2</sub> O <sub>4</sub>			12%			ND	175	248	300	480	230	230	ND	100	500	500	70	70
Sodium Dithionite (sodium hydrosulfite )	Na <sub>2</sub> S <sub>2</sub> O <sub>4</sub>		Yes				70	175	248	300	480	480	70	ND	100	500	500	70	70
Sodium Ferricyanide	Na <sub>3</sub> Fe(CN) <sub>6</sub> .H <sub>2</sub> O						180	180	275	300	500	70	70	ND	340	500	500	140	140
Sodium Ferrocyanide	Na <sub>4</sub> Fe(CN) <sub>6</sub> .10H <sub>2</sub> O						180	180	275	300	500	70	70	ND	100	500	500	140	140
Sodium Fluoride, 5%	NaF						180	180	285			70	70	70	100	500	500	140	140
Sodium Fluoride	NaF						180	180	285	300	500	NR	200	ND	340	500	500	140	140
Sodium Fluorosilicate	Na <sub>2</sub> SiF <sub>6</sub>						ND	70	200	ND	ND	80	ND	ND	ND	500	500	ND	ND
Sodium Formate (Formic Acid)	CHO <sub>2</sub> Na						70	70	214	275	500	212	200	140	340	500	500	NR	70
Sodium Hydrogen Phosphate (sodium phosphate dibasic )	HNa <sub>2</sub> PO <sub>4</sub>						180	180	280	140	500	480	212	70	500	500	500	140	140
Sodium Hydroxide, 10%	NaOH			10%	1.11		180	180	NR	250	500	248	225	2534	275	500	500	176	NR
Sodium Hydroxide, 15%	NaOH			15%	1.16		180	180	NR	250	500	248	225	2534	275	500	500	176	NR
Sodium Hydroxide, 25%	NaOH			25%	1.27		180	180	NR	250	500	212	200	2534	275	500	500	176	NR
Sodium Hydroxide, 30%	NaOH			30%	1.33		180	180	NR	250	500	212	200	200	275	500	500	212	NR
Sodium Hydroxide, 50%	NaOH			50%	1.52		180	180	NR	250	500	212	200	200	275	500	500	212	NR
Sodium Hypochlorite, 5%	ClONa			5%	1.1		212	NR	275	300	500	160	140	ND	NR	500	500	70	130
Sodium Hypochlorite, 12.5%	ClONa			12.5%	1.21		212	NR	275	300	500	NR	140	180	NR	500	500	70	130



Chemical Name	Molecular Formula	Flashpoint (° F)	Flammable	Concentration	Specific Gravity	CPVC	Polypropylene	Glass-Filled	PVDF	ETFE	PTFE	316 Steel	Hastelloy C-276	Titanium	Carbon	Ceramic	Silicon Carbide	EPDM	FKM	
Sodium Iodide	NaI						212	175	280	300	500	ND	ND	ND	ND	500	500	500	212	140
Sodium Metaphosphate (sodium hexametaphosphate)	(NaPO <sub>3</sub> ) <sub>6</sub>				1.2		180	175	280	300	480	70	ND	ND	500	500	500	500	212	140
Sodium Nitrate	NaNO <sub>3</sub>						180	180	280	300	500	170	140	70	500	500	500	500	200	212
Sodium Nitrite	NaNO <sub>2</sub>						180	180	280	300	500	150	70	70	500	500	500	500	176	212
Sodium Perchlorate, 10%	NaClO <sub>4</sub>			10%			190	180	250	300	350	ND	212	ND	200	500	500	500	ND	ND
Sodium Perchlorate	NaClO <sub>4</sub>	752°F					190	180	250	300	350	212	ND	ND	200	500	500	500	ND	ND
Sodium Permanganate				20%	1.16			175	275	300	70									
Sodium Peroxide	Na <sub>2</sub> O <sub>2</sub>						212	212	285	300	500	480	212	ND	350	500	500	500	140	1214
Sodium Phosphate, Acid, Monobasic	Na <sub>3</sub> PO <sub>4</sub> ·12H <sub>2</sub> O						185	180	280	300	500	480	212	70	500	500	500	500	140	140
Sodium Phosphate, Alkaline, Tribasic	Na <sub>3</sub> PO <sub>4</sub> ·12H <sub>2</sub> O						185	180	280	300	480	480	212	70	500	500	500	500	140	140
Sodium Phosphate, Neutral, Dibasic MSDS	Na <sub>3</sub> PO <sub>4</sub> ·12H <sub>2</sub> O						180	180	280	300	500	480	212	70	500	500	500	500	140	140
Sodium Silicate	Na <sub>2</sub> O <sub>2</sub>			35%	1.3		180	180	285	300	500	212	212	70	500	500	500	500	200	212
Sodium Sulfate	Na <sub>2</sub> SO <sub>4</sub>						180	180	285	300	500	1600	200	200	500	500	500	500	200	212
Sodium Sulfide	Na <sub>2</sub> S 9H <sub>2</sub> O						180	180	280	300	500	480	176	212	200	500	500	500	212	212
Sodium Sulfite	Na <sub>2</sub> SO <sub>3</sub>						212	225	280	300	ND	480	235	150	70	500	500	500	176	176
Stannic Chloride	SnCl <sub>4</sub>						180	180	285	300	500	NR	240	302	340	500	500	500	140	140
Stannous Chloride	SnCl <sub>2</sub> 2H <sub>2</sub> O						180	180	248	300	500	150	212	70	70	500	500	500	NR	70
Stearic Acid	C <sub>18</sub> H <sub>36</sub> O <sub>2</sub>	235°F			0.87		180	150	285	300	500	482	662	360	500	500	500	500	140	140
Stoddards Solvent		100°F	Yes		0.79		190	NR	275	300	500	70	200	200	500	500	500	500	NR	158
Styrene	C <sub>8</sub> H <sub>8</sub>	88°F	Yes		0.91		NR	NR	200	212	500	480	NR	ND	500	500	500	500	ND	70
Sulfamic Acid	H <sub>2</sub> NSO <sub>3</sub> H						NR	250	200	212	500	100	ND	NR	ND	500	500	500	NR	70
Sulfur Dichloride	SCl <sub>2</sub>						ND	NR	75	ND	450	ND	ND	ND	ND	500	500	500	NR	70
Sulfur Dioxide, Wet 10-80%	SO <sub>2</sub>						212	140	257	300	500	212	212	ND	ND	500	500	500	140	140
Sulfur Dioxide, Wet 100%	SO <sub>2</sub>						212	140	257	300	500	575	700	70	70	500	500	500	140	140
Sulfuric Acid, 10% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.07		212	212	287	300	500	NR	165	70	640	500	500	500	176	212
Sulfuric Acid, 20% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.14		212	180	287	300	500	NR	165	NR	640	500	500	500	140	212
Sulfuric Acid, 3% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.03		250	212	287	300	500	NR	165	140	340	500	500	500	140	212
Sulfuric Acid, 30% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.22		212	180	287	300	500	NR	60	NR	640	500	500	500	176	212
Sulfuric Acid, 33% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.24		212	176	287	300	500	NR	60	NR	640	500	500	500	176	212

Chemical Name	Molecular Formula	Flashpoint (° F)	Flammable	Concentration	Specific Gravity	CPVC	Polypropylene	Glass-Filled	PVDF	ETFE	PTFE	316 Steel	316 Stainless	Hastelloy C	Titanium	Carbon	Ceramic	Silicon Carbide	EPDM	FKM
Sulfuric Acid, 50% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.4	212	176	287	300	500	NR	165	NR	640	500	500	176	212		
Sulfuric Acid, 60% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.5	212	176	287	300	500	NR	165	NR	640	500	500	176	176		
Sulfuric Acid, 70% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.61	185	NR	257	300	500	NR	90	NR	640	500	500	176	176		
Sulfuric Acid, 80% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.73	185	NR	257	300	500	NR	180	NR	340	500	500	140	158		
Sulfuric Acid, 85% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.78	160	NR	212	300	500	NR	180	NR	340	500	500	ND	158		
Sulfuric Acid, 90% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.81	150	NR	212	300	500	NR	210	NR	300	500	500	104	158		
Sulfuric Acid, 93% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.83	150	NR	200	300	500	NR	210	NR	160	500	500	104	158		
Sulfuric Acid, 95% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.83	170	NR	180	300	500	NR	210	NR	160	500	500	NR	158		
Sulfuric Acid, 96% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.84	130	NR	175	300	500	NR	210	NR	220	500	500	NR	158		
Sulfuric Acid, 98% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.84	104	NR	140	300	500	NR	210	NR	220	500	500	NR	158		
Sulfuric Acid, 100% (air free)	H <sub>2</sub> SO <sub>4</sub>				1.83	NR	NR	NR	300	500	125	350	NR	NR	500	500	NR	158		
Sulfuric Acid, Fuming	H <sub>2</sub> SO <sub>4</sub>				1.94	NR	NR	NR	300	500	ND	ND	ND	ND	500	500	NR	140		
Tannic Acid, 10%	C <sub>14</sub> H <sub>10</sub> O <sub>9</sub>					180	180	260	275	500	212	150	200	500	500	500	140	140		
Tannic Acid, 100%	C <sub>14</sub> H <sub>10</sub> O <sub>9</sub>	390°F				180	180	260	275	500	212	150	200	500	500	500	140	140		
Tetrahydrofuran	C <sub>4</sub> H <sub>8</sub> O	7°F	Yes		0.89	NR	NR	NR	212	500	200	200	200	500	500	500	NR	NR		
Toluene	C <sub>7</sub> H <sub>8</sub>	39°F	Yes		0.87	NR	NR	170	250	500	480	212	200	500	500	500	NR	100		
Toluene, Toluol	C <sub>7</sub> H <sub>8</sub>	39°F	Yes		0.87	NR	NR	170	250	500	480	212	200	500	500	500	NR	100		
Trichloroethylene	C <sub>2</sub> HCl <sub>3</sub>				1.46	NR	NR	285	275	500	480	212	200	500	500	500	NR	ND		
Triethylamine	(C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> N	18°F	Yes		0.73	180	NR	100	250	500	480	ND	ND	500	500	500	ND	ND		
Trimethylamine	C <sub>3</sub> H <sub>9</sub> N	21°F	Yes			ND	NR	150	ND	300	ND	ND	ND	ND	500	500	ND	NR		
Turpentine	C <sub>10</sub> H <sub>16</sub>	95°F	Yes		0.86	180	NR	285	275	500	480	200	200	500	500	500	NR	158		
Urea	CH <sub>4</sub> N <sub>2</sub> O					180	180	280	275	500	200	200	200	500	500	500	200	200		
Water, Deionized	H <sub>2</sub> O				1	210	210	280	300	500	480	600	570	500	500	500	200	200		
Water, Demineralized	H <sub>2</sub> O				1	195	180	280	212	500	480	70	570	500	500	500	140	140		
Water, Distilled	H <sub>2</sub> O				1	225	180	280	300	500	600	600	572	480	500	500	140	140		
Water, Fresh	H <sub>2</sub> O				1	225	180	302	300	500	600	300	500	500	500	500	275	275		
Water, Salt	H <sub>2</sub> O				1	212	180	285	300	500	600	300	212	340	500	500	200	200		
Water, Sea	H <sub>2</sub> O				1	212	225	285	300	500	600	550	212	500	500	500	200	212		
White Liquor					1.15	180	180	280	200	500	480	130	ND	500	500	500	176	140		
Xylene	C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>	90°F	Yes		0.87	NR	NR	175	250	500	480	350	200	340	500	500	NR	140		
Xylol	C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>	81°F	Yes		0.87	NR	NR	175	250	500	480	350	200	340	500	500	NR	70		

Chemical Name	Molecular Formula	Flashpoint (° F)	Flammable	Concentration	Specific Gravity	CPVC	Glass-Filled Polypropylene	PVDF	ETFE	PTFE	316 Stainless Steel	Hastelloy C-276	Titanium	Carbon	Ceramic	Silicon Carbide	EPDM	FKM
Zinc Chloride	ZnCl <sub>2</sub>					180	180	285	300	500	480	293	200	340	NR	500	176	212
Zinc Sulfate	ZnSO <sub>4</sub> · H <sub>2</sub> O					180	180	285	300	500	480	932	200	340	NR	500	212	200



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