

# Ionic Liquids

Ionic Liquids (IL) represent a fascinating new class of solvents with unusual physical and chemical properties:

- Excellent solvating properties
- No measurable vapour pressure
- Non-flammability
- High thermal stability
- Low melting (up to 100° C) salts

One of the principal driving forces for research in this area is the need to find replacements for environmentally damaging solvents in a wide range of chemical processes. Solvents are high on the list of damaging chemicals for two simple reasons:

- used in large amounts
- usually volatile liquids that are difficult to contain.

## Properties

The physical properties of ionic liquids result in a class of solvents that are useful in a variety of ways:

- Combinations of different anions and cations, make it is possible to generate a vast number of different ionic liquids, each with their own specific solvation properties.
- Ionic liquids are non-volatile and may be used in high vacuum systems which eliminates many containment problems.
- IL's possess very good solubility properties for a wide range of both inorganic and organic materials. Moreover, unusual combinations of reagents can be brought together in the same phase.
- Immiscible with a number of organic solvents and provide a non-aqueous, polar alternative for two-phase systems. Hydrophobic ionic liquids can also be used as immiscible polar phases with water.
- Often composed of poorly coordinating ions, IL's have the potential to be highly polar non-coordinating solvents, particularly important when using transition metal based catalysts.

Featured here are Alfa Aesar's range of imidazolium-, imidazolium-, pyridinium-, ammonium-, pyrrolidinium- ionic liquids.

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# Ionic Liquids

Stock#	Description	Formula	CAS No
<b>Disubstituted Imidazoles</b>			
H26952	1-Allyl-3-methylimidazolium chloride, 99%	C <sub>7</sub> H <sub>11</sub> N <sub>2</sub> Cl	65039-10-3
H27255	1-n-Butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide, 99%	C <sub>10</sub> H <sub>15</sub> F <sub>6</sub> N <sub>3</sub> O <sub>4</sub> S <sub>2</sub>	
H27201	1-n-Butyl-3-methylimidazolium bromide, 99%	C <sub>8</sub> H <sub>15</sub> N <sub>2</sub> Br	85100-77-2
L19749	1-n-Butyl-3-methylimidazolium chloride, 96%	C <sub>8</sub> H <sub>15</sub> ClN <sub>2</sub>	79917-90-1
H27074	1-n-Butyl-3-methylimidazolium hexafluoroantimonate, 99%	C <sub>8</sub> H <sub>15</sub> F <sub>6</sub> N <sub>2</sub> Sb	174645-81-9
L19086	1-n-Butyl-3-methylimidazolium hexafluorophosphate, 98+%	C <sub>8</sub> H <sub>15</sub> F <sub>6</sub> N <sub>2</sub> P	174501-64-5
H27336	1-n-Butyl-3-methylimidazolium methanesulfonate, 99%	C <sub>9</sub> H <sub>18</sub> N <sub>2</sub> O <sub>3</sub> S	342789-81-5
H27754	1-n-Butyl-3-methylimidazolium methylsulfate, 99%	C <sub>9</sub> H <sub>18</sub> N <sub>2</sub> O <sub>4</sub> S	401788-98-5
H27720	1-n-Butyl-3-methylimidazolium n-octylsulfate, 99%	C <sub>16</sub> H <sub>32</sub> N <sub>2</sub> O <sub>4</sub> S	445473-58-5
L19087	1-n-Butyl-3-methylimidazolium tetrafluoroborate, 98+%	C <sub>8</sub> H <sub>15</sub> BF <sub>4</sub> N <sub>2</sub>	174501-65-6
L19765	1-n-Butyl-3-methylimidazolium trifluoromethanesulfonate, 99%	C <sub>9</sub> H <sub>15</sub> F <sub>3</sub> N <sub>2</sub> O <sub>3</sub> S	174899-66-2
H27788	1,3-Dimethylimidazolium dimethylphosphate, 98%	C <sub>7</sub> H <sub>15</sub> N <sub>2</sub> O <sub>4</sub> P	
H27501	1-Ethyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide, 99%	C <sub>8</sub> H <sub>11</sub> F <sub>6</sub> N <sub>3</sub> O <sub>4</sub> S <sub>2</sub>	
L19761	1-Ethyl-3-methylimidazolium bromide, 98+%	C <sub>6</sub> H <sub>11</sub> BrN	65039-08-9
H27651	1-Ethyl-3-methylimidazolium chloride, 99+%	C <sub>6</sub> H <sub>11</sub> N <sub>2</sub> Cl	65039-09-0
H26901	1-Ethyl-3-methylimidazolium dicyanamide, 98%	C <sub>8</sub> H <sub>11</sub> N <sub>5</sub>	
H27400	1-Ethyl-3-methylimidazolium diethylphosphate, 98%	C <sub>10</sub> H <sub>21</sub> N <sub>2</sub> O <sub>4</sub> P	
H27571	1-Ethyl-3-methylimidazolium ethylsulfate, 99%	C <sub>8</sub> H <sub>16</sub> N <sub>2</sub> O <sub>4</sub> S	342573-75-5
L19762	1-Ethyl-3-methylimidazolium hexafluorophosphate, 98+%	C <sub>6</sub> H <sub>11</sub> F <sub>6</sub> N <sub>2</sub> P	155371-19-0
H27232	1-Ethyl-3-methylimidazolium hydrogensulfate, 98%	C <sub>6</sub> H <sub>12</sub> N <sub>2</sub> O <sub>4</sub> S	412009-61-1
H26913	1-Ethyl-3-methylimidazolium methanesulfonate, 99%	C <sub>7</sub> H <sub>14</sub> N <sub>2</sub> O <sub>3</sub> S	145022-45-3
L19763	1-Ethyl-3-methylimidazolium tetrafluoroborate, 98+%	C <sub>6</sub> H <sub>11</sub> BF <sub>4</sub> N <sub>2</sub>	143314-16-3
L19764	1-Ethyl-3-methylimidazolium trifluoromethanesulfonate, 98+%	C <sub>7</sub> H <sub>11</sub> F <sub>3</sub> N <sub>2</sub> O <sub>3</sub> S	145022-44-2

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# Ionic Liquids

Stock#	Description	Formula	CAS No
<b>Disubstituted Imidazoles cont't</b>			
H27178	1-Hexyl-3-methylimidazolium chloride, 98%	C <sub>10</sub> H <sub>19</sub> N <sub>2</sub> Cl	171058-17-6
H27272	1-Hexyl-3-methylimidazolium hexafluorophosphate, 99%	C <sub>10</sub> H <sub>19</sub> F <sub>6</sub> N <sub>2</sub> P	304680-35-1
H27548	1-Hexyl-3-methylimidazolium tetrafluoroborate, 99%	C <sub>10</sub> H <sub>19</sub> F <sub>4</sub> N <sub>2</sub> B	244193-50-8
H27161	1-Methyl-3-octylimidazolium tetrafluoroborate, 99%	C <sub>12</sub> H <sub>23</sub> F <sub>4</sub> N <sub>2</sub> B	244193-52-0
H27682	1-Methyl-3-propylimidazolium iodide, 98%	C <sub>7</sub> H <sub>13</sub> IN <sub>2</sub>	
<b>Trisubstituted Imidazoles</b>			
H27270	1-Butyl-2,3-dimethylimidazolium chloride, 99%	C <sub>9</sub> H <sub>17</sub> N <sub>2</sub> Cl	98892-75-2
H27827	1-Butyl-2,3-dimethylimidazolium hexafluorophosphate, 99%	C <sub>9</sub> H <sub>17</sub> F <sub>6</sub> N <sub>2</sub> P	227617-70-1
H27141	1-Butyl-2,3-dimethylimidazolium tetrafluoroborate, 99%	C <sub>9</sub> H <sub>17</sub> F <sub>4</sub> N <sub>2</sub> B	402846-78-0
<b>Pyridines</b>			
H27496	1-n-Butyl-3-methylpyridinium hexafluorophosphate, 99%	C <sub>10</sub> H <sub>16</sub> F <sub>6</sub> NP	
H27355	1-n-Butyl-4-methylpyridinium hexafluorophosphate, 99%	C <sub>10</sub> H <sub>16</sub> F <sub>6</sub> NP	401788-99-6
H26983	1-n-Butyl-3-methylpyridinium tetrafluoroborate, 99%	C <sub>10</sub> H <sub>16</sub> BF <sub>4</sub> N	
H27100	1-n-Butyl-4-methylpyridinium tetrafluoroborate, 99%	C <sub>10</sub> H <sub>16</sub> F <sub>4</sub> NB	343952-33-0
H27116	Triethylsulfonium bis(trifluoromethylsulfonyl)imide, 98%	C <sub>8</sub> H <sub>15</sub> F <sub>6</sub> O <sub>4</sub> S <sub>3</sub>	321746-49-0
<b>Ammoniums</b>			
H27609	(2-Hydroxyethyl)trimethylammonium dimethylphosphate, 95%	C <sub>7</sub> H <sub>20</sub> NO <sub>5</sub> P	
<b>Pyrrolidines</b>			
H27177	1-n-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide, 98%	C <sub>11</sub> H <sub>20</sub> F <sub>6</sub> N <sub>2</sub> N <sub>2</sub> O <sub>4</sub> S <sub>2</sub>	223437-11-4

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