

io-li-tec

Ionic Liquids Technologies



Special Chemistry



Custom Synthesis



The foundation of **IoLiTec's Special Chemistry division** in the middle of 2004 was the consequence of an increasing demand for **high quality materials**. We focus on the **production of high purity Ionic Liquids** for a broad variety of applications, such as synthesis, catalysis, electrochemistry, protein-chemistry and many more.

Our **standard portfolio** consists of more than **30 Ionic Liquids** in purities from **98% to 99+%**.

By far most Ionic Liquids are based on the **imidazolium-cation** in combination with many different anions, but we also have **ammonium-, sulfonium- or pyrrolidinium-based** Ionic Liquids in our portfolio.

Common **anions** are e.g.:

- tetrafluoroborate
- thiocyanate
- dicyanamide
- trifluoromethanesulfonate
- bis(trifluoromethylsulfonyl)imide

With respect to customer's needs we offer to complete our portfolio a variety of useful **precursors** and **key-intermediates**:

- Li-bis(trifluoromethylsulfonyl)imide
- *N*- Alkyl-imidazoles
- Triflic acid derivatives

Furthermore we offer **well composed IL-kits** for special applications:

- proteinchemistry
- biotechnology
- electrochemistry
- synthesis of nano materials
- synthesis & catalysis

For **further information** please visit our homepage www.iolitec.de/ionic_e.htm.

One of IoLiTec's core-competences is the **systematic development and synthesis of new, commercially not available Ionic Liquids for specific applications**. For this reason we invite our customers to discuss their applications with us in order to recommend the most suitable Ionic Liquid for their specific application.

At our **well equipped laboratories** in Denzlingen/Germany we are able to supply **every patent-free Ionic Liquid** that is known from literature or that predictably can be synthesized on a **scale from 50 g up to 10 kg**.

All products are analyzed by:

- Ion-Chromatography
- NMR
- Karl-Fischer-Titration

Further characterisations are available on request.

Furthermore, we offer **conception, design and custom synthesis** of tailor-made Ionic Liquids. Our best quote including the most presumable delivery date will be made within 24 hours.

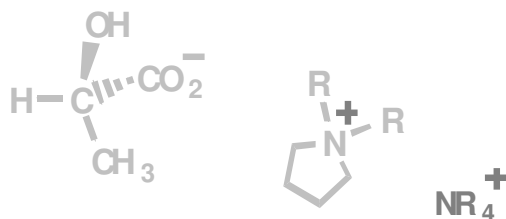
With our experience we'll find the right Ionic Liquid for your application!

Contact:

IOLITEC
Ionic Liquids Technologies GmbH & Co. KG
Ferdinand-Porsche-Str. 5/1
D-79211 Denzlingen

Phone: +49 (0) 7666 – 913929
Fax: +49 (0) 7666 – 9129345
www.iolitec.de

Special Chemistry:
(Ionic Liquids & Key Intermediates)
Dr. Tom Beyersdorff, Head of Special Chemistry
Phone: +49 (0) 7666 – 9129591
order@iolitec.de



... with our experience we'll find the right Ionic Liquid for your application!

Compound	Art.-No.	Purity	Viscosity	Conductivity	ECW	H ₂ O-Solub.
Imidazolium						
1-Ethyl-3-methyl-imidazolium dicyanamide	IL-003	>98%	●	●	●	●
1-Ethyl-3-methyl-imidazolium methanesulfonate	IL-004	>99%	●	●	●	●
1-Ethyl-3-methyl-imidazolium tetrafluoroborate	IL-005	>98%	●	●	●	●
1-Ethyl-3-methyl-imidazolium thiocyanate	IL-007	>99%	●	●	●	●
1-Ethyl-3-methyl-imidazolium tosylate	IL-008	>99%	●	●	●	●
1-Ethyl-3-methyl-imidazolium trifluoromethanesulfonate	IL-009	>99%	●	●	●	●
1-Ethyl-3-methyl-imidazolium bromide	IL-015	>99%	●	●	●	●
1-Ethyl-3-methyl-imidazolium ethylsulfate	IL-033	>99%	●	●	●	●
1-Butyl-3-methyl-imidazolium dicyanamide	IL-010	>99%	●	●	●	●
1-Butyl-3-methyl-imidazolium hexafluorophosphate	IL-011	>99%	●	●	●	●
1-Butyl-3-methyl-imidazolium tetrafluoroborate	IL-012	>99%	●	●	●	●

Compound	Art.-No.	Purity	Viscosity	Conductivity	ECW	H ₂ O-Solub.
Imidazolium						
1-Butyl-3-methyl-imidazolium trifluoromethanesulfonate	IL-013	>99%	●	●	●	●
1-Butyl-3-methyl-imidazolium bromide	IL-037	>99%	●	●	●	●
1-Butyl-3-methyl-imidazolium chloride	IL-014	>99%	●	●	●	●
1-Hexyl-3-methyl-imidazolium hexafluorophosphate	IL-018	>99%	●	●	●	●
1-Hexyl-3-methyl-imidazolium tetrafluoroborate	IL-019	>99%	●	●	●	●
1-Methyl-3-octyl-imidazolium hexafluorophosphate	IL-020	>99%	●	●	●	●
1-Methyl-3-octyl-imidazolium tetrafluoroborate	IL-021	>99%	●	●	●	●
1-Allyl-3-methyl-imidazolium chloride	IL-022	>98%	●	●	●	●
1-Methyl-3-propyl-imidazolium iodide	IL-025	>98%	●	●	●	●
1-Hexyl-3-methyl-imidazolium iodide	IL-013	>98%	●	●	●	●

Legend:

Viscosity (●: >250 cP; ●: 50 - 250 cP; ●: 15 – 50 cP)
 Conductivity (●: <5 mS/cm; ●: 5 - 15 mS/cm; ●: >15 mS/cm)
 ECW (ElectroChemicalWindow; ●: < 3V; ●: 3 - 4V; ●: >4 V)
 H₂O-Solubility (●: not soluble; ●: partially soluble; ●: fully soluble)

Please note:

The above listed Ionic Liquids represent only a small selection from our portfolio.
 You'll find our complete program at our web-site www.iolitec.de/ionic_e.htm

Compound	Art.-No.	Purity	Viscosity	Conductivity	ECW	H ₂ O-Solub.
Pyrrolidinium						
<i>N</i> -Butyl- <i>N</i> -methyl-pyrrolidinium bis(trifluoromethylsulfonyl)imide	IL-035	>99%	●	●	●	●
<i>N</i> -Butyl- <i>N</i> -methyl-pyrrolidinium dicyanamide	IL-041	>98%	●	●	●	●
Sulfonium						
Diethyl-methyl-sulfonium bis(trifluoromethylsulfonyl)imide	IL-031	>99%	●	●	●	●
Triethyl-sulfonium bis(trifluoromethylsulfonyl)imide	IL-030	>99%	●	●	●	●
Ammonium						
<i>N</i> -Butyl- <i>N</i> -trimethyl-ammonium bis(trifluoromethylsulfonyl)imide	IL-032	>99%	●	●	●	●
<i>N</i> -Trimethyl- <i>N</i> -octyl-ammonium bis(trifluoromethylsulfonyl)imide	IL-017	>99%	●	●	●	●
2-Hydroxyethyl-ammonium formiate	IL-034	>98%	●	●	●	●
Ethylammonium nitrate	IL-043	>98%	●	●	●	●

Legend:

Viscosity (●: >250 cP; ●: 50 - 250 cP; ●: 15 – 50 cP)
 Conductivity (●: <5 mS/cm; ●: 5 - 15 mS/cm; ●: >15 mS/cm)
 ECW (ElectroChemicalWindow; ●: < 3V; ●: 3 - 4V; ●: >4 V)
 H₂O-Solubility (●: not soluble; ●: partially soluble; ●: fully soluble)

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