

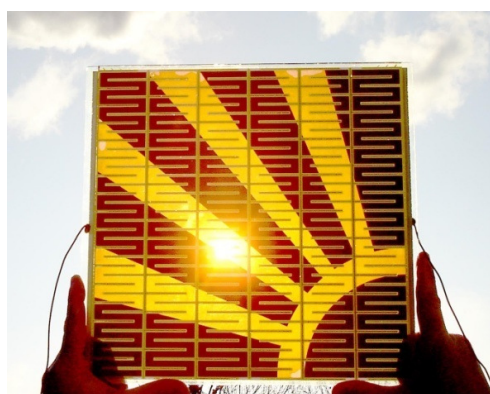
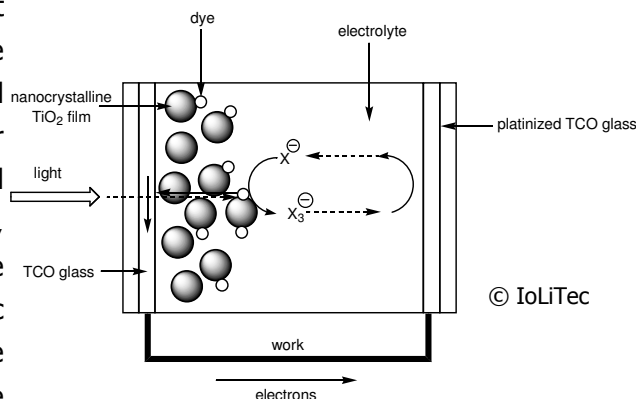
## Ready to use Electrolytes for dye-sensitised solar cells

Dye-sensitised solar cells (DSSCs) are considered a real alternative to the well-established silicon-based solar cells.<sup>[1]</sup> Utilising a synthetic dye, a nonporous semi-conductor and electrolyte, they convert sunlight into electricity via a complex electrochemical process. Compared to silicon-based solar cells they offer the major advantage of staying functional even under diffuse light. They are transparent and can therefore be used as translucent, power-generating architectural building blocks and design elements.

Ionic liquids, with their non-volatility, bright electrochemical windows (ECW), tuneable viscosity and conductivity are considered among the most promising electrolytes for such solar cells. The most widely used process is based on the  $I^-/I_3^-$  redox couple, and therefore the main components of the electrolytes are iodine containing ionic liquids. With those efficiencies of more than 10% have been achieved in the laboratory.<sup>[2]</sup>

In order to enhance photocurrent or photovoltage of the DSSCs, some additional components are added to the ionic liquids, such as rhodanides or of nitrogen-containing heterocycles.<sup>[3]</sup>

All these are now part of IoLiTec's portfolio. Our company prides itself on the quality of its products and offers not only a selection of ionic liquids, suitable as electrolytes, but also a range of ready-to-use-electrolytes that have been proved to show excellent results in laboratory tests.

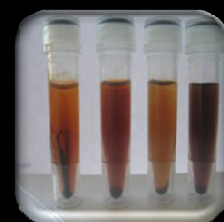
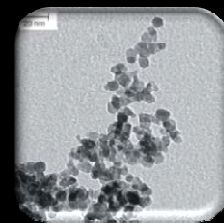
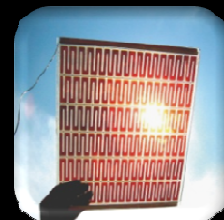


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Product Code	Compound	Quantities
<b>IoLiLyte® SP-361</b>	<b>0,10M I<sub>3</sub><sup>-</sup> PMIM-based Electrolyte</b>	25 g to 1 kg
<b>IoLiLyte® SP-382</b>	<b>0,15M I<sub>3</sub><sup>-</sup> PMIM-based Electrolyte</b>	25 g to 1 kg
<b>IoLiLyte® SP-355</b>	<b>0,10M I<sub>3</sub><sup>-</sup> PDiMIM-based Electrolyte</b>	25 g to 1 kg
<b>IoLiLyte® SP-163</b>	<b>0,03M I<sub>3</sub><sup>-</sup> BMIM-based Electrolyte</b>	25 g to 1 kg
<b>IoLiLyte® SP-237</b>	<b>0,2M I<sub>3</sub><sup>-</sup> PMIM/EMIM-based Electrolyte</b>	25 g to 1 kg
<b>IoLiLyte® SP-196</b>	<b>0,2M I<sub>3</sub><sup>-</sup> DiMIM/EMIM-based Electrolyte</b>	25 g to 1 kg

### References:

- [1] B. O'Regan, M. Grätzel, *Nature* **1991**, 353, 737–740  
 [2]. J. Kroon et al. *Prog. Photovolt: Res. Appl.*, 2007, **15**, 1  
 [3] M. Gorlov, L. Kloo, *Dalton Trans*, **2008**, 2655-2666



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