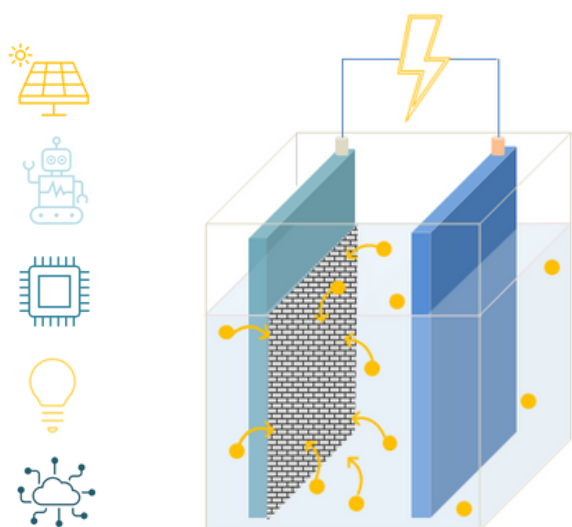


# Ionic liquids: A game changer in Electrodeposition

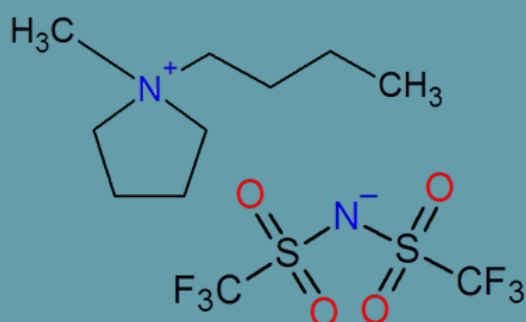


## Advantages of Ionic Liquids in electrodeposition

- High versatility allowing the electrodeposition of a wide variety of materials,
- Ionic Liquids electrolytes cause no emissions of volatile pollutants - safer process,
- Ionic Liquids media have negligible vapor pressure, high thermal and electrochemical stabilities,
- Morphology, chemistry and structure of depositions can be controlled by finetuning the Ionic Liquids,
- Suitable for future electronic, microelectronic and optoelectronic devices.

## Zoom on: PYR14TFSI – A high performance Ionic Liquid

1-Butyl-1-methylpyrrolidinium bis(trifluoromethanesulfonyl)imide (PYR14TFSI) is a **high-performance ionic liquid** offering key advantages over conventional solutions:



1-Butyl-1-methylpyrrolidinium  
bis(trifluoromethanesulfonyl)imide  
CAS : [223437-11-4]

- ✓ **Safe & Stable** – Non-flammable, vapor-free, and electrochemically robust (6.1V window).
- ✓ **Precision & Efficiency** – Enables uniform thin films and advanced nanostructures.
- ✓ **Eco-Friendly** – Reduces reliance on toxic solvents.

### Ideal for depositing:

Metal oxides (ZnO, NiO) – Electronics & energy storage.  
Iodide compounds (CuI, PbI<sub>2</sub>) – Next-gen solar cells.  
Halide perovskites – Emerging photovoltaic technologies.  
Si & Ge nanowires – Nanoelectronics breakthroughs.

## PYR14 TFSI DATA

Melting point	Crystallization point	Decomposition point	Density	Viscosity (at 25°C)	Conductivity (at 25°C)
-12.65 °C	-59.74 °C	360 °C	1.39 g/cm <sup>3</sup>	76.65 cP	3 mS/cm

**Areas of application** : Electronics, renewable energy, nanotechnology surface treatment

**Solvionic reference:** [PYR0408A](#)

**Packaging** : From 50g to 1 ton per month

**Publications** :  
E. Kosta et al. Electrochemistry Communications 59 (2015)  
F. Martineau et al. IOP Conference Series Materials Science and Engineering 6 (2009)  
I. Kosta et al. Electrochimica Acta 246 (2017)  
E. Azaceta et al. Journal of Materials Chemistry A 35(2013)

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