Solar Power Molten Salt

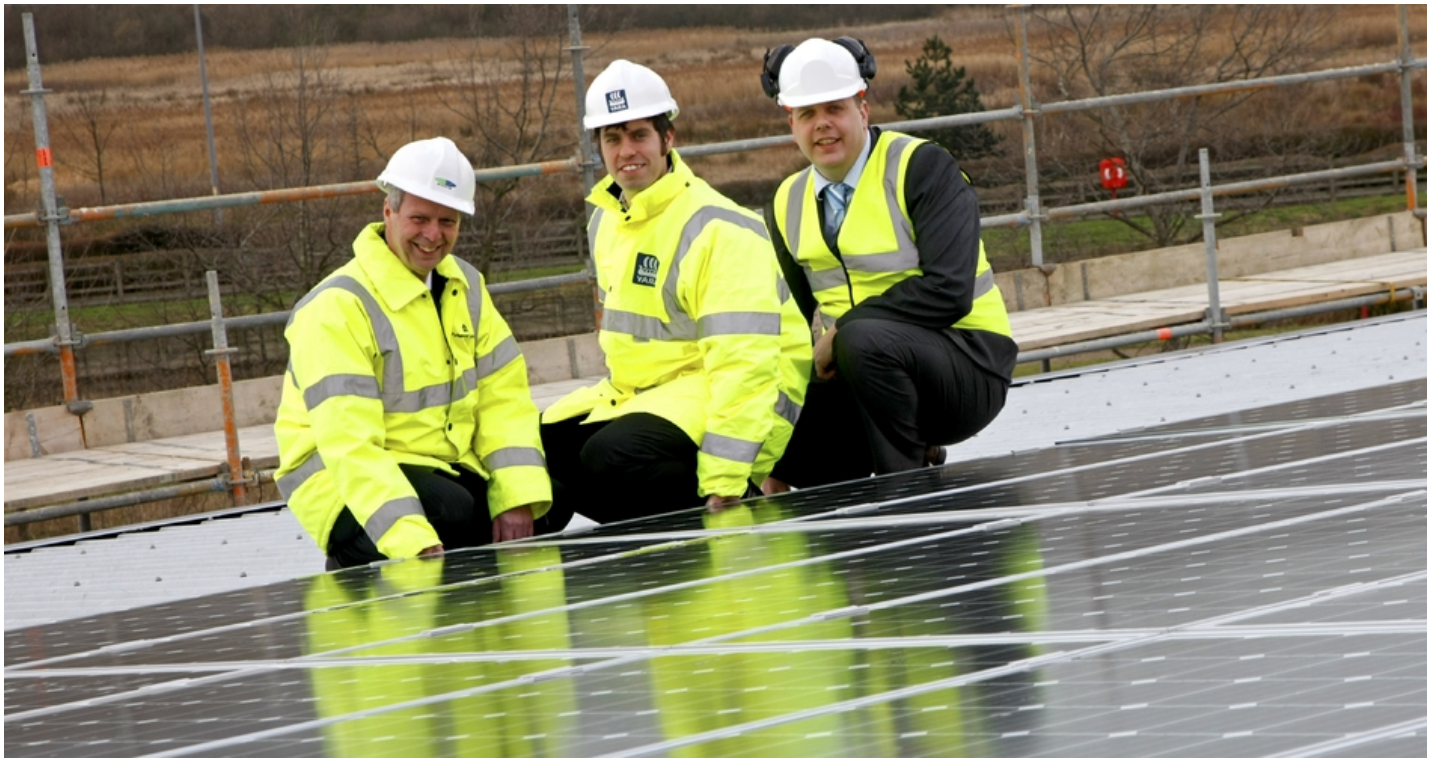
Improved molten salt technology is increasing the efficiency and storage capacity of solar power plants while reducing solar thermal energy costs.

Molten salt is used as a heat transfer fluid (HTF) and thermal energy storage (TES) in solar power plants.

Operators can take advantage of a new ternary mixture of molten salts based on Calcium-Potassium-Sodium-Nitrate introduced by Yara.

This low melting (131°C) ternary mixture of molten salts can be used both as a heat transfer fluid and thermal energy storage, for concentrated solar power plants.

It is also designed to be used in all other thermodynamic power units, where medium to high temperatures have to be transported and / or stored.



Pure and storable

What makes Yara's solar power molten salt innovative is the third component: NitCal-K™, a double salt of Calcium-and Potassium-Nitrate. Over a century of expertise in nitrates and nitrogen micals has enabled us to create a product that is:

- Synthetic
- (Almost) chloride free
- Ammonia free
- Very pure
- Storable without risk of caking

This prilled NitCal-K™ is a step forward in the cost-effective production of electricity in Concentrated Solar Power (CSP) Plants, and has been developed to reduce both CAPEX and OPEX of solar power plants using CSP technology.

Technical improvements

This ternary molten salt mix provides several technical improvements over binary salts. Used as an HTF and TES, it brings you:

- Lower melting point (131°C)
- Reduced risk of freezing
- Wider operational temperature range (increased ΔT)
- Less effort for heat tracing
- More durability for your CSP plant
- Increased safety

Cost benefits and safety improvements

Yara's next-generation molten salt technology offers both safety and cost benefits across the whole life cycle of solar thermal power plants.

Advantages include

- Cheaper solar energy with cheaper molten salt mix
- Less anti-freezing effort with lower melting point temperature
- Fewer tons of molten salts needed to produce and store solar thermal power thanks to wider operational temperature range (increased ΔT)

At high temperatures, Yara’s ternary molten salt mix offers thermal performances that can be compared to those of binary salts.

Long-term operational benefits

- Increase the lifetime of your solar power plant, thanks to lower corrosiveness.
- Reduce the risk of molten salt freezing, which could cause enormous plant damage, stoppage and maintenance costs.

Choose Yara's ternary molten salt mix: discover the next generation of solar thermal power generation.

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Why choose Yara?

Global reach

Every year, over 35 million tons of Yara products are delivered to more than 150 countries through our strong worldwide logistics network. Solar Power Molten Salt is delivered to your plant exactly when you need it in Europe, the Middle East, Africa or the Americas.

Supply reliability

Yara, the world's largest nitrate producer, guarantees a reliable supply for its molten salts. This is possible because of our unrivalled network of production plants around the world that is served by a logistics system of more than 200 terminals and warehouses.

Looking for safety data sheets (SDS)?

The safety data sheets for our products are produced in accordance with current regulations and outline the risks associated with the use of our chemicals.

Get Yara safety data sheets (SDS)

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