

**QUARTZ**  
EV FLUID

Keep your Battery  
Cool, Safe, and  
Road-Ready



## Battery Fluids

Engineered for modern electric mobility, this advanced dielectric fluid ensures safe, efficient, and sustainable thermal management. Its ultra-low viscosity and high thermal stability support fast charging, prevent thermal runaway, and enable effective heat dissipation. Non-toxic, halogen-free, and biodegradable, it's designed for all types of battery, delivering long-lasting performance with minimal environmental impact.



**TotalEnergies**

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## Quartz EV-Battery Fluids

Quartz EV-Battery is a range of dielectric fluids specifically designed for lithium battery immersion cooling technology.

These fluids offer a high level of cooling performance allowing the cells to accept high charge currents and reduce the risk of thermal runaway propagation of a lithium battery.

Thermo.Control Augmented technology is designed to allow battery to maintain at optimal temperature throughout its usage, ensuring maximum battery efficiency.



### Special Characteristics



#### Eco-Friendly

- ✓ Low viscosity
- ✓ Negative carbon footprint
- ✓ Made from renewable carbon

#### Special Feature

Environmentally Friendly / Sustainable

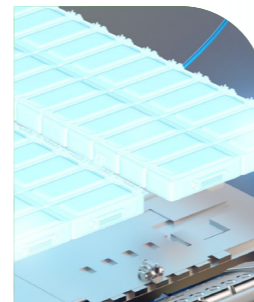


#### E-Cool

- ✓ Ultra low viscosity
- ✓ High level of cooling performance
- ✓ Customized properties

#### Special Feature

Ultra Low Viscosity > Cooling Performances Enhanced



#### Cell-Shield

- ✓ High auto-ignition temperature
- ✓ Low viscosity
- ✓ Thermal runaway propagation and fire prevention
- ✓ No fluorine, no safety pictogram

#### Special Feature

Safety / Fire Protection



#### S-Cool

- ✓ Specially designed for battery without fluid circulation
- ✓ High level of cooling performance
- ✓ Very high thermal stability

#### Special Feature

Cooling and Oxidation Resistance Performances Enhanced

### Customer Benefits



High cooling efficiency with a low volume of fluid.

Protect against the risk of fire and cell thermal runaway propagation thanks to a very high thermal stability of the fluids.

Improved energy efficiency, thanks to perfect heat dissipation.

Sustainability and cost efficiency, thanks to immersion cooling technology.

Enables extreme fast charging through direct battery immersion cooling.

### Key Highlights



Unique coolant formulation dedicated to battery constraints, for high stability at high temperatures and a negative carbon footprint



Safety enabler thanks to thermal runaway propagation and fire prevention



Very low viscosity, even at low temperature



Very good oxidation resistance and protection from corrosion



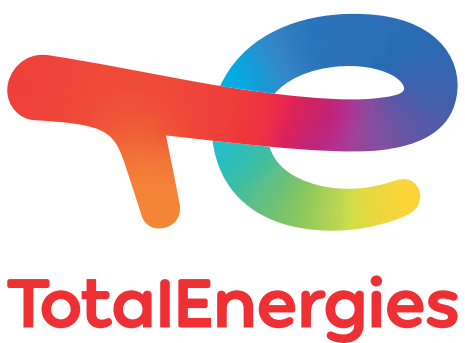
Absence of halogens, no toxicity and biodegradability

### Physical Characteristics

Product	Eco-Friendly	E-Cool	Cell-Shield	S-Cool
Viscosity at -20°C (mm <sup>2</sup> /s)	21	14	41	245
Viscosity at 40°C (mm <sup>2</sup> /s)	3.1	2.3	4.6	12
Thermal Conductivity at 40°C (W/m/K)	0.128	0.116	0.109	0.147
Specific Heat Capacity at 40°C (kJ/kg/K)	2.2	2.01	2	1.99
Pour Point (°C)	< -60	< -50	< -60	< -60
Flash Point (°C)	> 125	> 104	> 154	> 220
Auto Ignition Temperature (°C)	> 200	> 218	> 403	> 350
Biodegradability	Readily Biodegradable	Readily Biodegradable	Readily Biodegradable	Readily Biodegradable

Types of Application:

All type of batteries, cells (pouch, prismatic, cylindric), chemistry and battery applications



Scan the QR Code to learn more about Quartz EV Fluids



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