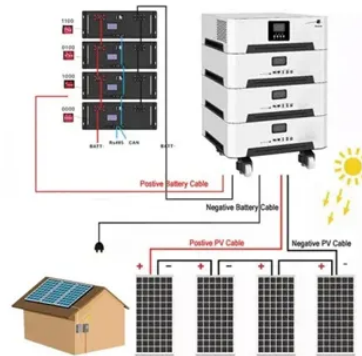


Synthetic Ester BESS Cooling Fluid



Overview

Savita Oil Technologies delivers QuantiCool™ a single-phase immersion coolant for BESS designed to reinvent battery safety and performance. This synthetic ester-based dielectric fluid immerses cells and modules directly, providing real-time cooling, fire suppression and extended battery life. Battery Energy Storage Systems (BESS) are the backbone of renewable integration, grid stability, and peak demand management. Over 100 fire incidents worldwide since 2017 have raised alarm. What is Immersion Cooling For Battery Energy Storage?

FREE WHITE PAPER DOWNLOAD Immersion cooling submerges lithium-ion battery cells in a dielectric, non-toxic, biodegradable fluid with a high fire point. The fluid remains in constant contact with every cell surface, drawing heat away and keeping. As energy storage scales and moves closer to people and critical infrastructure, safety and lifetime performance are no longer optional.



Article Content

Battery Thermal Management & Cooling Fluids | Savita

Its advanced 50:50 blend of ethylene glycol and de-ionized water is engineered for exceptional thermal control, ensuring robust heat transfer and uniform temperature balance across battery modules and

Liquid Cooled LFP BESS 2026: Why High-Density Utility Projects

Also verify the coolant type. Dielectric fluids (synthetic esters) eliminate leak risks but cost more. Water-glycol is cheaper but requires deionization and regular maintenance. Both work; choose based on

How FR3 Fluid Compares to Other Types of Transformer Oil

Compare the characteristics of transformer mineral oil, FR3 natural ester fluid, synthetic ester fluid, and silicone transformer oil. Connect with Cargill.

Immersion cooling for lithium-ion batteries – A review

Cooling fluids suitable for immersion cooling include: hydrofluoroethers, hydrocarbons, esters, silicone oils and water-glycol mixtures. Key figures of merit include viscosity, density, thermal

Synthetic Ester Dielectric Fluids Boost BESS Safety and ...

In our latest blog, we explain why synthetic ester dielectric fluids are emerging as the preferred immersion cooling medium for modern BESS deployments.

Immersion Coolants for Data Centers: Selection Criteria

There are many types of coolants used for immersion cooling of IT equipment in data centers. These coolants can be hydrocarbon-based, esters (natural or

Synthetic esters: Beyond base oils

Due to the long service life of EV fluids, varnish formation is possible in systems with direct cooling of electrical components such as motors, batteries and inverters;

Synthetic and Natural Ester Fluids: What Sets Them

Understand the main difference between synthetic and natural ester fluids: their molecular structure, oxidation stability, and transformer suitability.

Dielectric fluids for immersion cooling

A fully synthetic, low viscosity dielectric ester base oil that has been designed, tested, and manufactured to meet high standards of electrical insulation and cooling performance.

Synthetic Ester Impact on Power Transformer Design, Manufacturing

A possible answer to those challenges is to replace mineral oil with esters, fluids with similar dielectric and thermal properties, but with significantly higher fire point combined with biodegradability. This

Synthetic ester immersion cooling for lithium-ion batteries: A ...

In this paper, an oil immersion cooling system for battery modules is designed, the thermal and electrical properties of battery modules immersed in static and dynamic insulating oils are

Eco-Friendly Ester Fluid for Power Transformers versus Mineral Oil ...

Mineral oil has long been used as an adequate coolant and dielectric medium in power transformer design. However, it is flammable and environmentally risky as it may be leaked or

Comparing Dielectric Fluid Choices for Data Center

Key considerations when comparing different approaches to deploying immersive liquid cooling to a data center.

Synthetic Ester Dielectric Fluids for BESS Immersion

Synthetic ester formulations used in BESS immersion cooling are readily biodegradable and exhibit low toxicity. These characteristics simplify

Immersion Cooling Slows LFP Cell Degradation, Extends Battery Life,

EticaAG uses Shell BESS Fluid S5 MIVOLT, a synthetic ester-based dielectric fluid with a flash point of 260°C and an auto-ignition temperature above 400°C. These thresholds sit well

Synthetic ester base oils EV battery cooling | Cargil

EV Cooling Fluids Synthetic ester dielectric ester base oil We are experts in the manufacture of low viscosity Group V ester base oils. We offer dielectric base

Ester-based immersion coolant demonstrates superior safety for

With the increasing demand for high battery energy density and thermal management, immersion liquid cooling has emerged as a promising strategy, while the safety of coolants remains

Immersion-Cooled BESS: Redefining Battery Safety

Because the dielectric liquid touches 100% of the cell surface, immersion-cooled BESS eliminates the “core-to-surface” thermal delay common

Natural esters as sustainable alternating dielectric liquids for ...

Synthetic and natural esters have been exposed to research for years vis-a-vis mineral oil around the globe. Even though several investigators are in favor of ester liquids use in high

BESS Immersion Cooling Fluids | QuantiCool™

This synthetic ester-based dielectric fluid immerses cells and modules directly, providing real-time cooling, fire suppression and extended battery life.

Fluids and Lubricants Specifications Battery Energy Storage System (BESS)

These Fluids and Lubricants Specifications apply to Battery Energy Storage Systems (BESS) from the manufacturer Rolls-Royce Solutions. Coolants for the converter cooler are specified.

Immersion-Cooled BESS: Redefining Battery Safety

Reduced coolant volume without sacrificing safety The goal for next-generation immersion-cooled BESS is not just better cooling—but cooling

Experimental and theoretical study of an immersion battery thermal ...

The rapid development of electric vehicles has created new requirements for battery thermal management systems. An immersion battery thermal management system based on

Immersion Cooling for Lithium-Ion Battery Energy Storage Systems ...

Possible hazards from leaks or fluid degradation, depending on the fluid used. Some newer synthetic esters are non-toxic, readily biodegradable and have high ignition points, helping

Immersion Cooling for Battery Energy Storage Systems:

Shell BESS Fluid S5 MIVOLT is a synthetic ester dielectric fluid engineered for immersion-cooled battery storage. Its combination of electrical insulation, high

Dielectric fluids for immersion cooling

Dielectric fluids for immersion cooling Formulate coolants for EV batteries, motors and power electronics with high performance, low viscosity dielectric ester base oils.

Contact Us

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