



CALCHILL™ IMMERSION COOLING FLUID

Technological advancements such as cloud computing, artificial intelligence, blockchain technology and the need for faster information processing, are driving data centers to maximize efficiencies while using a tremendous amount of power and energy.

CalChill™ immersion cooling fluid provides a highly efficient solution for cooling electrical components and optimizing data center performance by effectively transferring the heat away from technology systems. Compared to energy intensive air cooling, CalChill reduces the overall power consumption to lower energy costs. Our fluid is used in single-phase immersion cooling to prevent over-heating and protect equipment from failure.

ADVANTAGES

- **Server performance:** Conducts heat better than air to remove excess heat generated by equipment.
- **Reliability:** Helps keep equipment operating smoothly with fewer break down interruptions.
- **Reduced energy usage:** Effective at transferring heat and reducing energy costs.
- **Safety:**
 - Food-grade purity
 - Formulated without intentionally added PFAS: Aligns with evolving global regulations and does not contribute to global warming.
 - Low volatility
 - Please refer to the Safety Data Sheet for more information.

TYPICAL PROPERTIES

ELECTRICAL & THERMAL PROPERTIES	UNITS	METHOD	CALCHILL 60	CALCHILL 70
Thermal Conductivity @ 50 °C	W/m*K	ASTM D7896	0.1137	0.1213
Specific Heat @ 50 °C	J/kg*K	ASTM E1269	1988	1935
Dielectric Constant, 40 GHz 70 °C		Split Cylinder Resonator	2.14	2.14
Loss Tangent, 40 GHz 70 °C		Split Cylinder Resonator	0.00061	0.00053
Dielectric Strength (1mm gap)	kV	ASTM D1816	23.8	20.8
Volume Resistivity @ 60 °C	GΩm	ASTM D1169	6500	61000
Volumetric Expansion	1/°C	ASTM D1903	0.00056	0.00066
FOM1 @ 25 °C		OCP	35	33
FOM1 @ 50 °C		OCP	42	41
PHYSICAL & CHEMICAL PROPERTIES	UNITS	METHOD	CALCHILL 60	CALCHILL 70
Sulfur	ppm	ASTM D5453	0.09	0.24
Flash Point (Closed Cup)	°C	ASTM D93	164	187
Autoignition Point	°C	ASTM E659	303	320
Fire Point	°C	ASTM D92	186	211
Pour Point	°C	ASTM D97	-40	-29
Acid Number	mg KOH/g	ASTM D664	0.015	0.01
Kinematic Viscosity @ 40 °C	cSt	ASTM D7042	7.7	12.1
Kinematic Viscosity @ 100 °C	cSt	ASTM D7042	2.4	3.0
Density @ 50 °C	kg/m ³	ASTM D4052	823	813
Vapor Pressure @ 70 °C	mbar	ASTM D2879	0.12	<0.13
Color, Saybolt		ASTM D156	+29	+30
FDA Food Contact	Pass	21 CFR 178.3620	Incidental (b)	Direct (a)

TECHNICAL ASSISTANCE

For product or technical questions, contact your Sales Representative or Calumet Product Support at (800) 437-3188 or email technical@calumet.com.

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