ZITREC® EC 40

More than PG25

ZITREC® EC 40 is a premium **Ethylene Glycol-based** direct-to-chip liquid coolant based on patented OAT-technology customised for data centers and other electronic applications.

Application: Direct to chip

Designed for:

Base fluid:

Technology: **OAT**

Product Highlights

- Available in various EG concentrations
- No biofouling
- Reduced electrical conductivity
- Stable electrical conductivity
- Excellent copper protection

Key Features

Base Fluid	Ethylene Glycol (EG)
Technology	Patented OAT Technology

Characteristics	• Reduced electrical conductivity (96 µS/cm) mitigating the risks of a short circuit after leakage
	• Reduced electrical conductivity remains stable over time
	• Biostatic matrix inhibiting growth of micro-organisms
	• Compared to PG solutions
	  • Lower viscosity (less pump power)
	  • Higher heat conductivity
	  • Lower freezing point (suitable for edge applications)
	  • Expected to be readily biodegradable

Corrosion protection	Corrosion protection for aluminium, copper, stainless steel, brass, ...
Compatibility	High compatibility with most common elastomers and thermoplastics, ensuring integrity and performance of system components
Colors	Upon request
Packaging	• IBC 1000l • Drums 208/210l • Pails 20l
Safety	• Nitrite-free • Borate-free • 2-EHA free

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Chemical and physical properties

	ZITREC® EC 40 EG50	Method
Appearance	Clear	Visual
Propylene Glycol	50 vol%	
Freezing Point	-37°C	ASTM D1177
Boiling Point	111°C	ASTM D1120
Reserve Alkalinity	1.4 ml	ASTM D1121
Density (20°C)	1.067 kg/l	ASTM D5931
Electrical Conductivity	96 µS/cm	ASTM D1125
Thermal Conductivity (20°C)	0.42 W/mK	ASTM D7895
Specific Heat (20°C)	3.31 kJ/kg.K	ASTM E1269
pH (20°C)	8.2	ASTM D1287
Mircobiological control-bacteria	0 cfu/ml	
Chloride	< 5 mg/kg	
Sulfate	< 5 mg/kg	
Nitrite, amine, phosphate, borate, silicate, 2-EHA	-	

Shelflife and storage requirements

ZITREC® EC 40 EG can be stored for **minimum 36 months** in unopened recipient without any effect on the product quality or performance. It is strongly recommended to use new non-translucent containers and where possible packages with a UV filter. Direct sunlight and high temperatures can degrade the quality of the product. ZITREC® EC 40 EG should be stored below 30°C, the minimum temperature depends on the EG concentration. Periods of exposure to temperatures above 35°C in combination with direct sunlight should be minimised.

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Compatibility and mixability

Arteco recommends rinsing the cooling system with ZITREC® EC 40 EG or demineralised water with an electrical conductivity below 100 µS/cm prior to (re)filling. After rinsing, the system must be completely drained.

To maintain the low electrical conductivity, our coolant should not be mixed with any other heat transfer fluids. Even minor additions will increase electrical conductivity and may affect product safety and performance.

As with any heat transfer fluid, the use of galvanised steel is not recommended for pipes or any other part of the storage/mixing installation and for packaging.

Sustainability

1. Reduced Product Carbon Footprint (PCF)
ZITREC® EC 40 is also available as ECO coolant offering a significantly reduced PCF compared to the virgin fossil-based equivalent, with no compromise on quality or performance. Our ZITREC® EC 40 ECO incorporate base fluids derived from bio-based or recycled raw materials, allocated through a certified mass balance approach.

2. Responsible water management
The demineralised water utilised in our product manufacturing is sourced from local surface water and processed through an advanced water treatment method, thereby decreasing dependence on municipal drinking water supplies.

Toxicity and safety

For toxicity information, safe handling and disposal of the product, we refer to the Safety Data Sheet.

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Positioning within the product range

	ZITREC® EC 10	ZITREC® EC 20	ZITREC® EC 30	ZITREC® EC 40
Base Fluid	Water	PG	PG or EG	PG or EG
Technology	OAT	OAT	OAT	OAT
Most important characteristics	• Water-based & biostatic (without use of biocides[1]) • Globally non-classified • High protection of all wetted materials	• Excellent aluminium corrosion protection at elevated temperatures • Globally non-classified	• Excellent aluminium corrosion protection at elevated temperatures, including a brazing flux compensation package • Globally non-classified	• Reduced electrical conductivity, mitigating the effects of a short circuit • Globally non-classified
Freezing point	0°C	-11°C (PG25)	-14°C (EG25)	-14°C (EG25)
Boiling point	100C	105°C (PG25)	103°C (EG25)	111°C (EG25)
Concentrate available	✓	✓		
Leak detection package	✓	✓	✓	
Readily biodegradable	✓	✓	✓	✓
Low toxicity	✓	✓	✓ *	✓ *
Bacteriostatic	✓	✓	✓	✓
Corrosion protection	Corrosion protection for aluminium, copper, stainless steel, brass, ...			
Compatibility	High compatibility with various elastomers and thermoplastics, ensuring integrity and performance of system components.			

[1]These products contain no intentionally added biocides.
*Applicable for the PG-based version

Want to know more?

Scan the QR-code or contact us via support_liquidcooling@arteco-coolants.com