

## Zitrec® EC 10

### Waterbased OAT technology

**Zitrec® EC 10** is a ready to use water based heat transfer fluid customised for datacenters and other electronic applications. Developed specifically for high-demand applications, this heat transfer fluid incorporates patented organic inhibitors, ensuring long-lasting corrosion protection for the entire system.

In an era where datacenters are adapting to higher CPU<sup>1</sup> and GPU<sup>2</sup> Thermal Design Power with lower case temperatures driven by new technologies like AI<sup>3</sup> and ML<sup>4</sup>, traditional air-cooling methods often prove inadequate. Water based liquid cooling addresses this challenge by offering superior thermal management, significantly improving Power Usage Effectiveness (PUE) and reducing cooling energy consumption, which typically accounts for 80% of a data center's non-IT energy usage.

**With Zitrec® EC 10, datacenter operators can confidently meet the escalating cooling demands of modern technology, ensuring efficient, safe and environmentally responsible operations.**



## PRODUCT BENEFITS



### Optimal thermal performance

- **Zitrec® EC 10** offers superior thermal performance ideal for overclocking and similar applications using solely water as base fluid.



### Protecting critical surfaces

- Carefully balanced organic inhibitors prevent scaling and offer exceptional corrosion resistance, safeguarding critical metal surfaces like copper, aluminium, (stainless) steel and brass throughout their lifespan;
- High compatibility with various elastomers and thermoplastics, ensuring integrity and performance of system components.



### Reduced maintenance

- Depletion free and stable inhibitor package;
- Bacteriostatic.



### Environment and safety

- Carefully selected formula to minimise environmental impact;
- Nitrite, borate and 2-EHA free technology;
- The non-hazardous nature of the product ensures safety during handling and usage;
- Expected to be readily biodegradable

1 CPU: Central Processing Unit  
 2 GPU: Graphical Processing Unit  
 3 AI: Artificial Intelligence  
 4 ML: Machine Learning

## Application

Arteco's **Zitrec® EC 10** is designed as a liquid heat transfer medium for a wide range of applications and particularly recommended for high demanding power electronic components which do not need boil and freeze protection. Some examples where **Zitrec® EC 10** is suitable for: **liquid cooled Direct-to-Chip applications, HPC (High Performance Compute), Overclocking and Datacom Equipment Center Cooling.**



*Power Electronics*



*Edge Computing*



*Servers*



*High Performance Computing*

## Toxicity & safety

For toxicity information, safe handling and disposal of the product, we refer to the Safety Data Sheet. This product should not be used to protect the inside of drinking water systems against freezing.

## Packaging

Arteco's **Zitrec® EC 10** is available in the following packs & colours:



**IBC 1000L**



Colour options upon request

## Contact details

Should you have questions with regards to Arteco's **Zitrec® EC 10**, related to available packages or colours or on one of the other Arteco solutions, please do not hesitate to contact your local Area Sales Manager or send your inquiry to [info@artecco-coolants.com](mailto:info@artecco-coolants.com).

**Addendum - Technical information**

**Chemical and Physical Properties**

Property	Zitrec® EC 10	Unit	Method	OCP requirements	ASHREA requirements
Appearance	Clear liquid		visual		
Nitrite, amine, phosphate, borate, silicate	-				
Specific gravity (20°C)	1.003 typ.	kg/l	ASTM D5931		
Refractive Index (20°C)	1.337 typ.		ASTM 1218		
pH (20°C)	8.5 typ.		ASTM D1287	8.0 - 10.5	8.0 - 9.5
Turbidity	1	NTU		< 5	< 20
Total Harness as CaCO <sub>3</sub>	0	ppm		< 2	< 0
Chloride	2	ppm		< 50	< 5

**Engineering data**

Temperature	Density (kg/m <sup>3</sup> )	Specific Heat (kJ/kg.K)	Thermal Conductivity (W/mK)	Dynamic Viscosity (cP = mPa.s)	Kinematic Viscosity (cSt = mm <sup>2</sup> /s)
10°C	1004	4.18	0.570	1.5	1.5
20°C	1003	4.17	0.586	1.2	1.2
30°C	1000	4.17	0.601	0.9	0.9
40°C	996	4.17	0.615	0.7	0.7
50°C	992	4.17	0.627	0.6	0.6
60°C	987	4.17	0.638	0.5	0.5
70°C	981	4.17	0.647	0.4	0.5

**ASTM D1384 - Glassware corrosion test**

	Weight loss in mg/coupon <sup>1</sup>					
	Brass	Copper	Solder	Steel	Cast Iron	Aluminium
Specification	10	10	30	10	10	30
Zitrec® EC 10	2	1	1	0	-1	7

<sup>1</sup> Weight loss AFTER chemical cleaning according to ASTM procedure. Weight gain is indicated by a - sign

## Shelflife & storage requirements

**Zitrec® EC 10** can be stored for minimum 2 years 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 10** should be stored above 0°C and below 35°C. Periods of exposure to temperatures above 35°C should be minimised.

**Zitrec® EC 10** is not compatible with galvanized steel.

## Compatibility and mixability

For optimal performance:

- Arteco's **Zitrec® EC 10** is compatible with most other heat transfer media based on water, propylene glycol or ethylene glycol. Exclusive use is however recommended for optimum corrosion protection and sludge control.

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