

FREECOR EV
Micro 10

Base Fluid: MEG

Application:

Drive Train: H_2 Fuel Cell

Technology: non-ionic

FREECOR® EV Micro 10 is **an ultra low-electrical-conductivity coolant** (< 5 µS/cm), specifically designed for direct cooling of Low Temperature PEM Fuel Cell Stacks (LT-PEMFC) in Fuel Cell Electric Vehicles (FCEV), **meeting GB 29743.3 and ASTM D8565-24 standards.** This coolant offers corrosion protection for fuel cell system components made of Aluminum, Copper and Brass, and stainless steel. It is compatible with engineering thermoplastic and elastomers used in the direct cooling circuit of the LT-PEMFC. The coolant is also compatible with the commonly used Ion exchanger materials (cartridges and resins).

Product benefits & key features of FREECOR® EV Micro 10

- **Ultra Low electrical conductivity (<5 µS/cm)**
- **Low corrosion inhibitor depletion**
- **Low maintenance interval**
- **Material Compatibility**
- **Heat transfer**
- **Corrosion, cavitation, erosion protection**
- **Boiling protection**
- **Freeze protection**

Colour and Packaging

Packaging	Colour
• IBC • Plastic Drum • Pails • Bottle	**Colourless** available with and without bitterant

Key approvals, standards and specifications

Arteco is active in multiple working groups across the globe. FREECOR® EV Micro 10 complies with the Chinese National standard for fuel cell vehicles (FCEVs):

GB 29743.3 - 2025 **ASTM D8565-24**

For the complete overview and further details, please consult Arteco's Product Finder.

Application

FREECOR® EV Micro 10 is a mixture of ultra-pure water and high-purity antifreeze grade glycol, specifically developed for the direct cooling of fuel cell stacks and applications requiring electrical conductivity lower than 5 µS/cm. FREECOR® EV Micro 10 is suitable to use in the cooling systems with ion exchanger. The coolant ensures operational safety by supporting a stable electrical conductivity below 5 µS/cm, eliminating the need for further dilution or manipulation. FREECOR® EV Micro 10 is available in different ready-mix formulations, allowing a broad range of freezing points.

FREECOR® EV Micro 10 is compatible with stainless steel, aluminium, copper, brass and common elastomers as well as thermoplastics found in fuel cell cooling systems.

FREECOR® EV Micro 10 is also available with bitterant to comply where local regulations exist for the mandatory inclusion of bitterant in monoethylene glycol containing liquids, FREECOR® EV Micro 10 +B2.

Toxicity & Safety

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

Shelf Life & Storage Requirements

FREECOR® EV Micro 10 can be stored for 36 months in unopened recipients 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. In case the storage period has exceeded three years, it is strongly recommended to test the coolant on pH and electrical conductivity before the product is added to the system.
FREECOR® EV Micro 10 should be stored below 30°C. Periods of exposure to temperatures above 35°C should be minimised.

Handling Instructions

Arteco strongly recommends to rinse the cooling system with FREECOR® EV Micro 10 or ultra-pure water (electrical conductivity below 5 µS/cm) prior to (re)filling the cooling system. A full drain after rinsing is required. Rinsing with engine coolant or other coolant with electrical conductivity >5µS/cm is not recommended, as residuals may severely impact the electrical conductivity of the FREECOR® EV Micro filled thereafter.
A conventional engine coolant has an electrical conductivity level of more than 1000 times higher, which causes damage to the fuel cell system. Therefore, FREECOR® EV Micro 10 should not be mixed with any conventional engine coolant.
A conventional coolant can equally not be used to top up the fuel cell coolant. Its use is not intended for traditional and conventional engine coolant applications and the use of carbon steel alloys, cast iron, zinc and galvanised parts is prohibited. In case of doubt, please contact your local Area Sales Manager.

Technical Information

Chemical and physical properties of our FREECOR® EV Micro ready-to-use products

Property	FREECOR® EV Micro 10			GB 29743.3		Unit	ASTM
	-37 °C	**-40 °C**	**-45 °C**	**Limit**	**Method**		**Method**
Density (20 °C)	1,067	1,069	1,073	≥ 1,060 / 1,064 / 1,066	SH/T 0068 SH/T 0604	kg/L	ASTM D1122
pH (20 °C)	5,6	5,6	5,6	5 ~ 8	SH/T 0069	-	ASTM D1287
Electrical Conductivity (25 °C)	<1	<1	<1	≤ 5	GB 29743.3	µS/cm	ASTM D1125
Freezing Point	-37,6	-40,5	-46,2	≤ -35 / -40 / -45	SH/T 0090	°C	ASTM D1177
Boiling Point	108,5	109,0	109,5	≥ 107,5 / 108,0 / 108,5	SH/T 0089	°C	ASTM D1120
Kinematic Viscosity (20°C)	3,8	4,0	4,4	-	-	mm^2/s	ASTM D445
Foaming Tendency	40 // 0,7	30 // 0,4	40 // 1.2	150 // 5	SH/T 0066	mL // s	ASTM D1881

More technical information is available on request: info@arteco-coolants.com

Explanation of Product Benefits

Ultra Low electrical conductivity (< 5 µS/cm)

FREECOR® EV Micro 10 is formulated with ultra-pure water and high-purity antifreeze grade glycol. The coolant maintains stable, low current levels when exposed to voltage. The result is minimal fluid decomposition and hydrogen generation, making it a safety-optimized solution that also delivers outstanding corrosion protection.

Low corrosion inhibitor depletion

The carefully selected low-consumption inhibitor system supports extended coolant service life. Minimal depletion helps maintain consistent corrosion protection over long operating periods.

Low maintenance interval

FREECOR® EV Micro 10 remains stable over time thanks to its proprietary inhibitors and stabilisers. With its unique non-ionic technology, FREECOR® EV Micro 10 supports the prolonged life time of the ion exchanger, resulting in decreased maintenance frequency.

Material Compatibility

FREECOR® EV Micro 10 offers excellent protection for components such as stainless steel, aluminium, copper, brass and common elastomers and thermoplastics used in fuel cell cooling systems. It is also fully compatible with key system components including ion exchangers, radiators and hoses, making it a robust and reliable solution for advanced fuel cell applications.

Heat transfer

Supports faster charging cycles by maintaining optimal operating temperatures. It improves energy efficiency by keeping thermal conditions stable during operation, and it enhances heat recuperation within the thermal management system.

Corrosion, cavitation, erosion protection

Safeguards metals against corrosion and prevents material degradation over time.

Boiling protection

Prevents boiling at elevated temperatures, maintaining system stability and preventing damage.

Freeze protection

Prevents freezing in cold climates and extends system longevity with appropriate freeze-protection properties.

arteco
ENGENIOUS COOLANTS

DISCOVER OUR ECO COOLANTS

All our coolants are also available in ECO versions.

Reduced product carbon footprint

compared to their virgin fossil-based equivalents

Trusted quality and performance



Statements regarding environmental benefits, CO_2 reductions and other sustainability-related performance characteristics of the product(s) referenced herein are based on recognised scientific evidence and internal and/or external data available to us at the time of publication. Actual environmental performance may vary depending on use, conditions, and context. Supporting data and methodology are available on request (info@arteco-coolants.com). This information is provided for transparency purposes and does not constitute a guarantee of performance in all circumstances.

Why Choose Arteco?

Arteco is a joint venture between Chevron and TotalEnergies, with more than 25 years of expertise in developing, producing, and marketing high-performance coolant technologies. As a trusted global player in the automotive, data center, and industrial sector, we deliver reliable and forward-looking thermal solutions tailored to evolving market needs.

At Arteco, we focus on more than supplying products; we are committed to building genuine partnerships and offer a wide range of services to support and strengthen our partners' success. We are pioneers in Organic Additive Technology (OAT) and continue to lead innovation in advanced coolant formulations. Quality is central in everything we do: all our production sites and subcontractors are certified to rigorous quality-management standards, including IATF 16949:2016, ensuring consistency, safety, and performance. Partnering with Arteco means choosing proven excellence, cutting-edge technology, and a long-term commitment to cooperation.






For All Enquiries

For questions about FREECOR® EV Micro 10, available packages, colours, or other Arteco solutions, please contact your local Area Sales Manager or send an inquiry to info@arteco-coolants.com.

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