OAT Technology

Freecor® AQC

Coolant concentrate with OAT technology

Freecor® AQC is an MEG based product used as a cooling fluid in automotive industry. The presence of a pure organic inhibitor backbone makes this product the ideal choice when a versatile coolant is required at an economical price level.

Freecor® AQC is a cost-effective universal coolant concentrate passing ASTM D3306.

PRODUCT BENEFITS

Protection

- Corrosion protection, also for non-ferrous metals
- Protection against frost damage
- Boiling protection

Robustness

- Cost-effective solution using robust and longlasting inhibitors for multiple engine coolant system applications
- Excellent heat transfer properties
- No deposit formation

Miscibility & compatibility

- Good miscibility with other engine coolants
- Seal compatibility
- Hard water stability

Environment, Health and safety

- Carefully selected additives to reduce environmental impact
- 2-EHA, nitrite, amines and borate free technology
- No ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- A waterbased non-classified superconcentrate available: **Freecor® AQI**

Freecor® AQC

OAT Technology

Application

Arteco's **Freecor® AQC** can be used in an extensive range of automotive applications.

Freecor® AQC provides year-round frost and corrosion protection. It is recommended to use at least 33vol% of **Freecor® AQC** in the cooling solution. This concentration will provide a freezing point down to -18°C. Concentrations higher than 70vol% are not recommended.

Dilution vol% Freecor® AQC	*Freeze point °C (ASTM D1177)*	*Dilution vol% Freecor® AQC*	*Freeze point °C (ASTM D1177)*
35.4	-20	**48.9**	-35
40.3	-25	**52.5**	-40
44.8	-30	**55.8**	-45

Key approvals, standards and specifications

Arteco is renowned to be active in multiple working groups across the globe. This results in:

Freecor® AQC complies with following standards:

- British Standard BS 6580:2010*
- Afnor NF R15-601
- ASTM D3306

** For product containing 25% or more 1,2 ethane diol (MEG) which is supplied as packaged goods intended for retail to the general public, BS 6580:2010 requires the addition of minimum 25ppm of denatonium benzoate (bitterant), or the package has to be fitted with a childproof closure.*

Freecor® AQC meets the requirements of:

- AS 2108-2004
- CUNA NC 956-16
- UNE 26-361-88/1

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

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.

Packaging

Arteco's **Freecor® AQC** is available in the following packs & colours:

Bulk

IBC 1000L

Colourless

Blue

Contact details

Should you have questions with regards to Arteco's **Freecor® AQC**, 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@arteco-coolants.com.

Shelflife & storage requirements

Freecor® AQC can be stored for minimum 3 years in unopened containers 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. The product should be stored above -20°C and below 35°C. Periods of exposure to temperatures above 35°C should be minimised.
Freecor® AQC is not compatible with galvanized steel.

Compatibility and miscibility

For optimal performance:

- Exclusive use is recommended. Although **Freecor® AQC** is compatible with most other ethylene glycol based coolants, for getting the full benefits of the product, it should not be mixed with other products.
- Use of deionised or distilled water to prepare the ready-to-use dilutions and waterbased concentrate for controlled quality is advised. We refer to our product information leaflet on water quality recommendations.

Addendum - Technical information

Chemical and Physical Properties

Property	*Freecor® AQC*	*Unit*	*ASTM D3306 requirements*	*Method*
Appearance	clear liquid		clear liquid	visual
Density 20°C	1.111	kg/l	1.110 - 1.145	ASTM D1122
Refractive Index 20°C	1.430 typ.		-	ASTM D1218
pH (50vol%)	8.5 typ.		7.5-11.0	ASTM D1287
Freezing point (50vol%)	-36.6 typ.	°C	-36.4 max.	ASTM D1177
Reserve alkalinity (pH 5.5)	3.1 typ.	ml 0.1M HCl	report	ASTM D1121
Foaming properties at 88°C **- Foam** **- Break time**	 50 max. 5 max.	 ml sec.	 150 5	ASTM D1881

Physical data - typical values

	50% dilution	*40% dilution*	*33% dilution*	*Method*
pH	8.5	8.5	8.5	ASTM D1287
Freezing point (°C)	-36.6	-25	-18	ASTM D3321*
Density (20°C, kg/l)	1.066	1.054	1.044	ASTM D5931
Reserve alkalinity (pH 5.5)	1.6	1.3	1.0	ASTM D1121
Refractive index (20°C)	1.384	1.374	1.367	ASTM D1218

[2] *Freezing point measurement by means of a hand refractometer*

Version 202309-v00