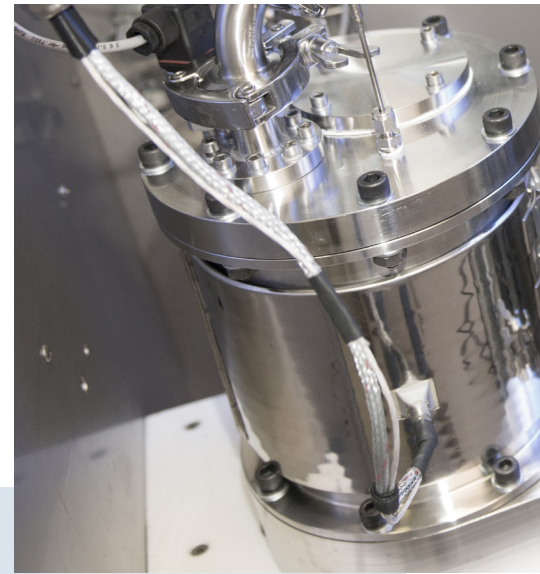


Freecor® AQI

Aqueous corrosion inhibitor with OAT technology

Freecor® AQI is an aqueous superconcentrated product that serves as a basis to blend a cost-effective coolant, offering frost and corrosion protection. 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® AQI is a cost-effective universal additive package.



PRODUCT BENEFITS

Superconcentrate:



- Cost-competitive
- Freight savings
- No ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- Low treat rate
- Not classified
- free from nitrites, borates, amines and 2-ethylhexanoic acid

Coolants formulated from Freecor® AQI offer the following benefits to the user:



- Universal coolant
- Corrosion protection
- Freezing and boiling protection
- Cost competitive
- Miscibility
- Elastomer compatible
- Hard water stable

Application

Coolants made from **Freecor® AQI** can be used in a wide range of drivetrains.

A coolant concentrate can be blended from **Freecor® AQI** by simply mixing the following ingredients at ambient temperatures:

<i>Ingredient (wt%)</i>	<i>Formulation 1</i>	<i>Formulation 2</i>	<i>Formulation 3</i>
Ethylene glycol	91.00		94.00
Propylene glycol		94.00	
Freecor® AQI	6.00	6.00	6.00
Demineralised water	3.00		
Colouring agent	optional	optional	optional
Bitterant	optional	optional	optional

If no freezing protection is required, 3% **Freecor® AQI** in water can be used as a ready-mix which provides excellent heat transfer and corrosion protection capability.

Key approvals, standards and specifications

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

Coolants made from **Freecor® AQI** and blended according to formulation 1 and 3 are conformable to British Standard BS6580:2010* and Afnor NF-R 15-601.

Coolants blended according to formulation 3 also conform to 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.*

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® AQI** is available in the following packs & colours:



Bulk



IBC 1000L



Colourless



Blue

Contact details

Should you have questions with regards to Arteco's **Freecor® AQI**, 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.

Shelflife & storage requirements

Freecor® AQI can be stored for minimum 2 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 -5°C and below 30°C. Periods of exposure to temperatures above 35°C should be minimised. At high temperatures and in open containers, considerable amounts of water can evaporate and this may result in solidification of the product.

Freecor® AQI is not compatible with galvanized steel.

Compatibility and miscibility

For optimal performance:

- Exclusive use of coolants made from **Freecor® AQI** is recommended. Although those coolants are compatible with most other coolants based on ethylene glycol, 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.

Blending Instructions

The equipment must be suitable for engine coolant blending. During and after blending, precautions should be taken to avoid any contamination of the product.

1. Check if the blending installation to be used for emptiness and cleanliness;
2. If not: clean and dry the installation;
3. Add the ethylene or propylene glycol (depending on the formulation) to the blending installation (do NOT heat!);
4. Start stirring in the blender;
5. Add the required amount of **Freecor® AQI** to the blender;
6. If needed use part of the ethylene or propylene glycol (depending on the formulation) to rinse the **Freecor® AQI** container;
7. Add the desired amount of demineralised water;
8. If required, add the dye-components and bitterant;
9. Continue stirring for 30 minutes;
10. Take a sample from the blend and evaluate according to characteristics;

Addendum - Technical information

Chemical and Physical Properties

<i>Property</i>	<i>Freecor® AQI</i>	<i>Unit</i>	<i>Method</i>
Inhibitor content	42	% w/w	
Water content¹	58	% w/w	ASTM D1123
Nitrite, amine, borate, phosphate, silicate, 2EHA	-		
Density (20°C)	1.050 - 1.080	kg/l	ASTM D5931
pH (20°C)	9.8 typ.		ASTM D1287

¹ Not including reaction water

Physical data - typical values

	<i>6% Freecor® AQI in MEG²</i>	<i>Method</i>
pH (33 vol%)	8.0 - 9.0	ASTM D1287
Reserve Alkalinity (pH 5.5)	2.0 min.	ASTM D1121
Foaming properties at 88°C > break time	50 ml max. 5 sec. max.	ASTM D1881
Hard water stability	< 0.01 ml	ASTM D7437

² A coolant concentrate blended according to formulation 3

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