

Corrtec HPC Fluid

Heat Transfer Fluid for use in Air and Ground Source Heat Pumps

1. Description

Corrtec HPC Fluid is a glycol based product with organic corrosion inhibitors to protect against freezing, corrosion, limescale, & biological build up within heat pump installations. The product is inhibited without the use of harmful borates, nitrites, amines, silicates and phosphates.

- Protects against corrosion, lime-scale & bacteriological contamination
- Provides excellent thermal efficiency and extends system life
- Exempt from potentially harmful additives
- Contributes to a safer environment
- Readily Biodegradable
- pH Stable

2. Corrosion Protection

Corrtec HPC Fluid contains an optimized inhibitor package to ensure maximum and long-lasting corrosion and the formation of scale at both high and low temperature. Corrtec HPC Fluid is based on organic inhibitor technology which is completely different from traditional inhibitor technology. The corrosion inhibitor of traditional technology forms an isolating film on the interior of the installation. This means they are consumed over time, and require repeated renewal to maintain corrosion protection. Organic inhibitors on the other hand, protect metals against corrosion by acting selectively by forming a mono-molecular protection layer on the location where corrosion has a tendency to start. This means that the inhibitor is used only where needed and therefore the rest of the inhibitor remains in reserve which gives a much longer corrosion protection life than traditional inhibitor technologies.

The effectiveness of Corrtec HPC Fluid is proven via the corrosion test method ASTM D1384 (American Society for Testing and Material

As for most heat transfer fluids, the use of zinc or materials using zinc is not recommended for pipes or any other part of the installation.

ASTM D1384 glassware corrosion tests	Weight loss in mg/coupon ¹					
	Brass	Copper	Solder	Steel	Cast Iron	Aluminium
'Industry' limit (max)	10	10	30	10	10	30
Corrtec HPC Fluid	0.9	1.0	0.6	0.2	-0.1	0.3

¹ : Weight loss AFTER chemical cleaning. Weight gain is indicated by a - sign.

3. Dilution Ratio

Corrtec HPC Fluid provides protection against boiling, freezing and corrosion. The dilution is determined by system requirements, mainly freezing requirements. However, to ensure good corrosion protection it is recommended to use at least 25 vol. % of **Corrtec HPC** in the solution, which provides freeze protection to -12°C. It is recommended that systems be clean and free from debris prior to charging with **Corrtec HPC Fluid** to reduce risk of potential contamination. Mixtures with more than 70 vol. % of **Corrtec HPC Fluid** in water is not recommended, because the physical properties like heat transfer are no longer sufficient.

Dilution Corrtec HPC Fluid, vol %	Freeze Point, °C	Dilution Geocool EG, vol %	Freeze Point, °C
20.0	-10	35.0	- 20
25.0	-12	40.0	- 25
30.0	-15	45.0	- 30

4. Compatibility and Mixing

Exclusive use of Corrtec HPC Fluid is recommended for optimal corrosion protection. This heat transfer fluid is compatible with European hard tap waters, up to a water hardness of 30° dH (German hardness degrees equivalent to 535 mg/l CaCO₃).

5. Elastomer Compatibility

Standard qualities of the following classes of polymers are compatible with our Corrtec HPC Fluid: Nitrile rubber (NBR), Hydrogenated nitrile rubber (H-NBR), Acrylate rubber (ACM), Silicone rubber (MVQ), Fluorocarbon rubber, commonly referred to as Viton (FPM), Ethylene Propylene Diene rubber (EPDM), Butyl rubber (IIR), Natural rubber (NR), Styrene Butadiene rubber (SBR), Polychloroprene rubber, often referred to as Neoprene (CR), Polytetrafluorethylene, commonly known as Teflon (PTFE), Polyethylene, low density and high density (LDPE and HDPE), Polypropylene (PP) Polyvinylchloride (PVC), Polyamide (PA), Polyester resins (UP)

Maximum and minimum usage temperatures in glycol and water based dilutions depend on the quality of the elastomer and should be requested of the manufacturer. Inform the manufacturer of the pH of the product and the sustained maximal pressures in the system when submitting your request.

6. Servicing and Monitoring Fluid Condition

Corrtec HPC Fluid can be used effectively in systems for many years. It is recommended that the fluid is checked annually with a refractometer to test for freeze protection.

7. Storage Requirements

The product should be stored at ambient temperatures and periods of exposure to temperatures above 35°C should be minimized. As with any antifreeze coolant, the use of galvanized steel is not recommended for pipes or any other part of the storage/mixing installation

Corrtec HPC Fluid can be stored for minimum 8 years in unopened containers without any effect on the product quality or performance. It is strongly recommended to use new containers and not recycled ones.

8. Toxicity and Safety

For detailed Toxicity and Safety Data we refer to the Material Safety Data Sheet. The transport is not regulated.

All information contained in this Product Information Leaflet is accurate to the best of our knowledge and belief as at the date of issue specified. However, the Company makes no warranty or representation, express or implied, as to the accuracy or completeness of such information.