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# Zitrec™ AC

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## 1 Description

**Zitrec AC** is a multipurpose corrosion inhibitor which is often used as heat

transfer fluid when no freeze protection is required.

## 2 Application

Many applications in the industry require a fluid to transport heat. Those applications range from solar panels to cooling or heating of industrial processes. The ideal heat transfer fluid must ensure a good thermal conductivity; have a high specific heat and low viscosity. It is also important that the fluid is non-flammable and compatible with common engineering materials. **Zitrec AC** combines all of these features because its high water content.

**Zitrec AC** provides no protection against freezing but ensures optimal corrosion

protection. The dilution is determined by system requirements such as the combination of materials used in the installation. To ensure good corrosion protection it is recommended to use at least 7 vol. % of **Zitrec AC** in water. **Zitrec AN** is a ready-to-use dilution which we recommend for most applications. In case your installation contains a high amount of metals such as Aluminum, we recommend **Zitrec AS** which is another ready-to-use dilution of **Zitrec AC** but which contains more corrosion inhibitors

## 3 Compatibility and mixability

**Zitrec AC** is compatible with most other heat transfer fluids based on either mono ethylene glycol or propylene glycol. Exclusive use of **Zitrec AC** is recommended for optimal

corrosion protection. This corrosion inhibitor package is compatible with European hard tap waters.

## 4 Storage requirements

The product should be protected from frost and direct sunlight during storage. The product should be stored at ambient temperatures and periods of exposure to temperatures above 35° should be minimized. **Zitrec AC** can be stored for minimum 5 year in unopened containers without any effect on the product quality or performance.

It is strongly recommended to use new dark containers and not recycled ones. Exposure to direct sunlight might cause discoloration, although the product itself and its properties remain stable. The recipients should not contain zinc as this may influence the corrosion protection properties and stability of the product.

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## 5 Toxicity & safety

For detailed toxicity and safety data we refer to the material safety data sheet. The transport is not regulated. The following labeling applies for the concentrate, but not

for dilutions below 15%: X<sub>n</sub>: R 63 (possible risk of harm to the unborn child) and S 36/37 (wear suitable protective clothing and gloves).

*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.*

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## Addendum - Technical information

### Chemical and physical properties

	method	Zitrec AC	Zitrec AN	Zitrec AS
inhibitor content	internal	32 % w/w	2 % w/w	3 % w/w
water content	ASTM D1123	68 % w/w	98 % w/w	97 % w/w
nitrite, amine, phosphate	IC	nil	nil	nil
colour	visual	colourless to slightly pale yellow	colourless	colourless
density, 20°C	ASTM D5931	1.061 typ.	1.003 typ.	1.006 typ.
equilibrium boiling point	ASTM D1120	103°C typ.	101°C typ.	101°C typ.
pH	ASTM D1287	9.3 typ.	8.2 typ.	8.2 typ.
refractive Index, 20°C	ASTM D1218	1.3815 typ.	1.3355 typ.	1.3375 typ.

**Zitrec AC** contains an optimized inhibitor package to ensure maximum and long lasting corrosion protection at both high and low temperature. The inhibitors are based on

carboxylate technology, which guarantees a longer lifetime than with traditional products. Anti-corrosion performance is demonstrated through standard and specific corrosion testing.

### Corrosion protection

ASTM D1384 glassware corrosion tests	weight loss in mg/coupon <sup>1</sup>					
	Brass	Copper	Solder	Steel	Cast iron	Aluminium
'Industry' limit (max)	10	10	30	10	10	30
<b>Zitrec AC</b>	0.6	1.7	0.8	0.1	0.1	4.2

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

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Corrosion protection

## Dynamic heat transfer corrosion test (2000 W)

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	weight loss in mg/coupon <sup>1</sup>	
	fonte	aluminium
Test duration, hrs	48	48
Zitrec AN		
hot coupon	-0.1	40.2
top coupon	-0.3	-1.4

<sup>1</sup> Weight loss AFTER chemical cleaning. Weight gain is indicated by a – sign.