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# Zitrec® IC

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## 1 Description

**Zitrec® IC** is a water-based superconcentrate of organic inhibitors. **Zitrec® IC** is used in heating and cooling systems in both domestic and industrial applications using water or a glycol/water mixture.

**Zitrec® IC** is also suitable to inhibit fluids used in heat pumps, floor heating systems and air-conditioning units.

**Zitrec® IC** is used at concentration levels between 3% and 6%. This low dosage, in combination with the all-round protection **Zitrec® IC** delivers, makes it an excellent economical solution.

## 2 Benefits

Most water systems suffer from many different types of corrosion. **Zitrec® IC** dilutions or **Zitrec® IC** added to water/glycol systems offer the following benefits to the user:

- **all round corrosion protection** through synergistic combination of additives
- **non-scaling additives** thanks to the absence of mineral inhibitors
- **no yearly additions required**
- **non-hazardous product** under the criteria of the CLP Directive EG 1272/2008
- **compatible with common seal materials**
- **stable in hard water** thanks to the absence of silicates & phosphates
- **exempt from borates**

Contrary to today's solutions, this corrosion inhibitor does not create a thick scale but creates a very thin layer of inhibitors, just one molecule thick. Thanks to the nature of the inhibitors selected, the metal surfaces are effectively protected for their full life time.

## 3 Use concentrations of Zitrec® IC

A normal use concentration of 6% v/v is recommended. In heating systems where predominantly carbon steel, copper and cast iron is used, a use ratio of minimal 3% v/v is recommended.

A system filled with **Zitrec® M** (ethylene glycol based) or **Zitrec® L** (propylene glycol based) may be boosted using **Zitrec® IC**. To calculate the exact requirement of additives, see separate calculation tool provided.

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### 4 Compatibility and mixability

For optimal performance and controlled quality, we recommend the use of deionised or distilled water to prepare the ready-to-use dilutions. We refer to our

product information leaflet on water quality recommendations. Contact your local area sales manager for more information.

### 5 Availability

Zitrec® IC is available in bulk and 1000 L containers.

### 6 Storage requirements & Product handling

The product should be stored above -5°C and preferably at ambient temperatures. Periods of exposure to temperatures above 35°C should be minimized.

The use of pipes galvanized on the interior is not recommended.

Zitrec® IC can be stored for minimum 2 years in unopened containers without any effect on the product quality or performance. It is strongly advised not to expose the product in translucent packages to direct sunlight.

It is advisable to store product indoors as the product does not offer freeze protection.

At higher temperatures and in open containers considerable amounts of water can evaporate and this may result in solidification of the product, though without negative effect on the product as the additives are resolvable in water again.

Zitrec® IC is a superconcentrate that contains an antifoam agent to limit the foaming during filling operations. Keeping the product in packages for a long time may result in the separation of the antifoam. This can be resolved by stirring or mixing the product prior to its use.

### 7 Toxicity & safety

For Toxicity and Safety Data we refer to the Material Safety Data Sheet. The information and advice given should be observed and due attention should be given to the precautions necessary for

handling chemicals. This product should not be used to protect the inside of drinking water systems. The transport is not regulated.

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# Zitrec® IC

## Addendum - Technical Information

Chemical and  
physical properties

	Zitrec® IC	method
inhibitor content	41 % w/w	
water content	59 % w/w	ASTM D1123
nitrite, amine, phosphate, borate, silicate	Nil	
colour	uncoloured to slightly yellow	
density, 20°C (kg/l)	1.057 typ	ASTM D5931
pH	9.8 typ.	ASTM D1287

### ASTM D1384 glassware corrosion tests

	Weight loss in mg/coupon <sup>1</sup>					
	Brass	Copper	Solder	Steel	Cast Iron	Aluminum
<b>ASTM D3306 (max)</b>	10	10	30	10	10	30
<b>6% v/v Zitrec® IC in water</b>	1.8	1.1	1.4	0.0	-0.8	6.5

<sup>1</sup> Weight loss AFTER chemical cleaning acc. to ASTM procedure. Weight gain is indicated by a - sign.

### ASTM D4340 Aluminum heat rejection test, 25 %

	Weight loss in mg/cm <sup>2</sup> /week <sup>1</sup>
<b>ASTM D3306 (max)</b>	1.0
<b>6% v/v Zitrec® IC in water</b>	-0.3

<sup>1</sup> Weight loss AFTER chemical cleaning acc. to ASTM procedure. Weight gain is indicated by a - sign.

Corrosion protection