

Cool Flash

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Editorial

Finally, summer has started! And although the sun is what we've been waiting for, these summer temperatures also bring with it interesting challenges : how to keep cold?! Not only air conditioning installations are working at high capacity, the storage of meat , fish , fruit or vegetables at conditioned temperatures is more critical than ever! The right temperature must be maintained during the complete production, distribution and storage cycle to avoid any contamination or bacterial growth. At this time of year, one can not take the risk to have breakdown or malfunctioning of your cooling system! This is a risk we can help reducing by use of our food-safe Zitrec F and our long-life corrosion protection.

Els Quintyn

...(cont') But despite of this important recognition, we do want to remind that Zitrec FC is not a food additive. Within the system design, and in its use, still great care must be taken to avoid as much as possible contamination or leakage of the fluid in the complete production process. Should leakages occur anyway , a risk assessment must be made and it must be evaluated to which extent the product (food) has been affected. The manufacturer can then make a responsible judgement on how to further handle the goods concerned.

Very recently, an Italian company, located nearby Rome, that produces and commercializes frozen snacks, has chosen for Zitrec F -25°C. The safe use of this product, together with the technical service provided by our Italian distributor Carini , were key elements in the customer's decision.

Zitrec F - NSF registered

In our previous edition we already talked about NSF, FDA and USDA, and how they are all linked to another. Of course, we did not do this without reason. At that time we had the registration of Zitrec FC at NSF in progress.

Today, we can now proudly announce that Zitrec FC has been registered by NSF as a **Heat Transfer Fluid for incidental food contact** (HT1) (www.nsf.org).

This NSF-registration gives an objective and formal recognition of the use of safe ingredients. Zitrec FC is based on high purity monopropylene glycol (USP/EP grade), and corrosion inhibitors suitable for 'incidental food contact'. This NSF-registration reassures the users once more of the safe use of Zitrec F...



From Arteco to Zitrec

Demineralised - Distilled - Deionised water. Demineralized and deionized water are synonymous : water that is free of ions and mineral. They have different names because they go through different processes to get to the same end point. In the deionizing process, ions and minerals are removed from the water by the use of filters or reverse osmosis. In the demineralizing process resin beads are used to "absorb" the minerals and ions from the water.

Distilled water is another process that attempts to remove minerals from the water. In the distillation process water is heated and then the condensate is collected. However, there are certain minerals that actually remain with or "get back into" the condensate. So, with distilled water, you cannot be certain that the water is free of ions and minerals. When a procedure calls for deionized/demineralized water, make sure to use it. When not explicitly mentioned, distilled water is fine.

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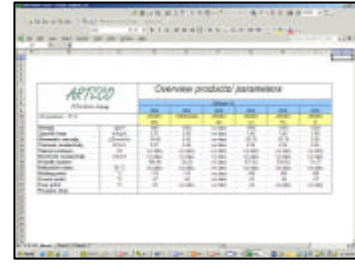
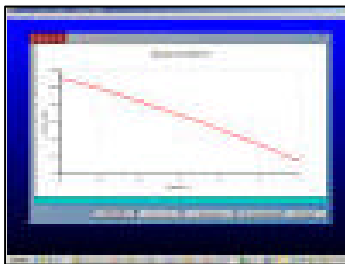


Prozit : New Release

With the introduction of Zitrec S and F at last year's IKK, it was more than time to integrate them into Prozit. Many of you know already what Prozit is, and how useful it can be in system-design and calculations. But for those amongst you that still think Prozit is just the German way of saying 'Cheers!', a little bit more explanation.

Prozit is a calculation software tool for engineers, consultants and installation engineers. It covers our complete HTF-range : properties of the entire Zitrec range as well of Freezium are included. It contains data on freeze point, boiling point, density, viscosity, heat capacity, electrical conductivity, specific heat, refractive index etc... One can retrieve data in function of concentration at a fixed temperature, or in function of temperature at a fixed concentration. This data can then easily be exported to Excel, and used further for your convenience, or application. Prozit also shows you graphs of these characteristics, which can either be printed out directly from Prozit, or can be exported to Excel.

The Prozit-section on our website will be updated shortly. So keep on consulting our website www.zitrec.com



Note : since the release, we've recieved some comments that certain Windows versions require extra software to install Prozit. It is called Microsoft .NET Framework Version 1.1 Redistributable Package, and can be downloaded – free of charge – from the Microsoft site (<http://www.microsoft.com/downloads/details.aspx?FamilyId=262D25E3-F589-4842-8157-034D1E7CF3A3&displaylang=en>). The file installed is called "dotnetFX.exe".

Breaking HTF traditions: Why Zitrec is different

Tom Lansbergen

Let's talk first about the glycols of today using *traditional* technology. These heat transfer fluids are very similar to one another, especially regarding their corrosion inhibition additives. They use chemical additives that easily precipitate when temperature changes. Those compounds hardly really act on corrosion itself, but act more as coating substances. They form layers of isolating chemical reaction products to prevent corrosion, comparable to painting a metal object to prevent it from rusting. As a result however, this interferes with the fluid flow in fine canal heat exchangers. But most importantly, it also interferes with the heat transfer between liquid and metal, leading to *decreased energy efficiency*. Also, these coatings are easily mechanically detached, causing mechanical erosion in pumps and heat exchangers. Where an erosive particle had 'scraped' the interior surface of an installation, corrosion is initiated even more rapidly! Further, since the interior surface of the installation needs to be covered, the inhibitors quickly disappear from the glycol solution. Therefore regular inhibitor additions are necessary. The extra work that it causes is often neglected ... You have other priorities. AND YOU ARE RIGHT! You deserve an inhibitor that doesn't require additions, that selectively acts on corrosion, that does not interfere with heat transfer, that does not cause seal ageing. An inhibitor that has a long life! That's where Zitrec technology is totally different.

The Zitrec OAT-inhibitors (Organic Acid Technology) we use are selective : they act only when and where corrosion occurs. The selective inhibitors isolate the electric cell, which is created during corrosion. And since the inhibitors react only locally on the corrosion spot itself, no heat transfer interference can be observed, nor get inhibitors depleted. To say it in other words: LIFE LONG protection for your cooling installation. That means a LONG LIFE heat transfer fluid. That is what ZITREC OAT stands for.



Distributor workshop - One Happy Family!

Tom Lanbergen

"We are a growing family" said Guy Coussement, our Business Manager, while he opened the 2005 edition of the distributor meeting for heat transfer fluids, this time held at the Arteco facilities in Antwerp and Gent. To the 30 people in the room he continued: "I remember doing the workshop for not more than 10 people". It is true, the Arteco Distributor family is indeed growing! This year, we were happy to welcome 3 more distributors (Carini [Italy], Brenntag Nordic [Sweden, Norway, Denmark,...], Dehon Service [France]).

The meaning of the word "Distributor" implies that the products of Arteco are physically available in the respective countries in which they are active. Yet at Arteco, being a distributor is much more than that. Arteco has a distribution strategy with clear selection criteria for distributors. Companies which are a Zitrec and/or Freezium distributor should score high on the "competence" and "focus" criteria. This means that they can offer much more than just Zitrec products to Arteco's end customers, but most importantly, can offer solutions as well.



A picture of our happy family!

One of these are services to get the customer through the engineering

cycle: technical knowledge and calculation tools/software are available through our distributors. The workshop that took place was aimed at the goal of increasing knowledge on the use of heat transfer fluids, as well as sharing experiences on proven solutions realised in projects with customers.

To all our distributors : keep up the good work!

Readers corner

In last edition (n° 3), was written that FDA means 'Federal Drug Administration'. An attentive reader pointed out that this is not correct. FDA stands for 'Food and Drug Administration'

Thank you, Mrs. Kugener, for pointing this out.

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Technologiepark Zwijnaarde 2

Distributor update : Brenntag Nordic starts new cooperation with Arteco

Peter Bradley

Brenntag Nordic is part of Brenntag, a leading global player in the distribution of chemicals and raw materials. Brenntag is owned by Bain Capital Partners, based in Boston USA, and is present in all major industrial regions in Europe and in North and South America. Brenntag's total global turnover is 4.3 Billion € with a total number of employees worldwide of 8900. In Scandinavia, Brenntag is known as Brenntag Nordic with operating companies in Sweden, Norway and Denmark.

Brenntag Nordic has an annual turnover of 220 Million € with 330 employees and 11 facilities which include storage, blending and filling and also laboratories. They also have ISO 9002 and ISO 14001 quality accreditation. Brenntag Nordic have been strong in car coolants and Heat Transfer Fluids in Denmark but not in Sweden, Norway and Finland. They have now made investments in both experienced sales personnel and in equipment with a new tank storage facility in Orebro, Sweden to make a strong challenge with Heat Transfer Fluids and also car coolant in all of the Nordic countries.

Peter Bradley said, "Developing this partnership between Brenntag Nordic and Arteco presents an exciting opportunity to capitalise on the sales potential of Heat Transfer Fluids in the Nordic countries to both companies advantage as well as presenting additional opportunities for sales of automotive coolants."



Mats Feltwall, Peter Blocken, Helge Lundh and Peter Bradley



Agenda

- 02-04 Nov '05. IKK
Hannover - Germany
- 17-18 Nov '05.
Cool & Comfort happening
Leuven - Belgium
- 23-26 Nov '05. SHK 2005
Hamburg - Germany
- 29 Nov - 1 Dec '05.
Food Safety & Hygiene
Paris - France

Tradeshow “Klimaatvak” in the Netherlands—a success!

Tom Lansbergen

Klimaatvak is a reputed event in Gorinchem in The Netherlands (between Rotterdam and Breda) – it is the industry’s trade show on HVACR. Everybody who knows Dutch people will immediately recognise the warm and cosy atmosphere that was present at that show. One of the ways to create that atmosphere was by placing small buffets with different snacks at strategic places throughout the hall. As these buffets formed a nice location to discuss the themes on the trade show with customers, they also “strengthened the inner person”, as the Dutch tend to say.

Gasco, our distributor for Benelux, had a very nice stand on ‘Klimaatvak’ where also Zitrec and Freezium HTFs were on display. Judging from the number of interested customers and the feedback that they provided, we can say that this trade show was a success for Gasco as well as for Artec.

Congratulations Gasco! Especially to Alistair who did most of the work!



The team from Gasco Netherlands



Zitrec and Freezium on display

XI European Conference on Refrigeration at Centro Galileo -Milan Italy

Tom Lansbergen

In Italy, the refrigeration and air-conditioning world is in the midst of a big change. This was clearly sensible during the 11th conference on Refrigeration and Air Conditioning that took place in Milan, on the 17th and 18th of June. These changes that the Italian industry is undergoing are also detectable in other countries: it are a.o. the changes toward natural working fluids, the changes in systems using R-gases, and the impact on their design, installation and maintenance following the EU legislations on F-gases and the pressure vessel directives. Energy saving solutions were also widely addressed.

The importance of this conference was underlined by the presence of Mr. D. Coulomb (President of IRR) and R. Vallort (President ASHRAE) and numerous other ‘VIPs’ such as Mr Buoni, Mr Cavallini, François Billard, ...

Amongst the speakers we also had Tom Lansbergen, who presented a paper called “Innovative technology for secondary heat transfer fluids”. Mainly, the point of the presentation was that if one were to start using secondary systems using glycols or brines, it is at least as important to think of corrosion behaviour as it is to think of thermophysical properties of the fluid. Together with Enrico Bozzi and Matteo Valoti of Carini, Artec’s distributor in Italy, the audience was invited to discuss the matter offline on the small stand that was provided.



Energetics for indirect refrigeration systems.

The article challenges the common belief in the refrigeration industry, that for chill room conditions, indirect refrigeration systems use more energy than direct systems. Practical examples show otherwise. Real life installations running over a few years, and taken into account the variations in load between summer and winter and day and night, have proven that an indirect system used less specific energy than a comparable direct system. Advantages and disadvantages of indirect systems are summarized :

- Capital costs are often higher for indirect than for direct systems. However, these differences are reduced when contractors gain more expertise
- + Indirect systems allow a better balancing of capacity, resulting in reduction of total connected power
- + Choice of refrigerant is unrestricted, permitting use of the best one available
- + Limited charge of refrigerant, which is expensive, and certain refrigerants affect the global environment.
- + More even temperature, favorable also for storage of most foodstuffs
- + Low maintenance costs
- + Flexible system, allowing easy change.....

Source Refrigeration World, 04-2005, Anders Lindborg

READ IN THE PRESS

Our comments :

Not explicitly mentioned in the article, but additional advantages worth mentioning are :

- + *Confinement of potentially dangerous, toxic or flammable refrigerant gases*
- + *Due to more compact size and lower refrigerant charge, the primary circuit is smaller, less expensive and less complicated. It has less leakage thanks to shorter tubes and less connections. In large systems it is technically and economically extremely difficult to create a completely tight system.*
- + *Lesser problems in complex and large primary systems due to oils carried by the refrigerant gas*
- + *In indirect systems, thermal storage can be applied, resulting in a more equally distributed thermal load over time. Energy recuperation leads to overall better performance of the system, making it at least comparable to direct systems in efficiency.*
- + *One single machine room, makes it easier to maintain, inspect, and control.*

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Zitrec is a registered trademark of Artec. Freezium is a registered trademark of Kemira

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