

## A-Gas RemTec and Coolgas, Inc.

Introducing A-Gas RemTec International, located in Bowling Green, OH ([www.remtec.net](http://www.remtec.net)), is a sister company to Coolgas and also part of the A-Gas group. It complements Coolgas' capabilities by adding fire protection gases and refrigerant reclamation and destruction, AHRI-700 lab certified refrigerant testing, cylinder re-certification and special projects. This is another reason why Coolgas can be your one-stop refrigerant solutions provider.

# A-GAS RemTec™

## Training by Coolgas

If your group needs retrofit training, Coolgas is now beginning to offer retrofit seminars upon request. Contact your sales representative for information on how to host a retrofit seminar at your facility.

## Our easy to use R-22 Retrofit Refrigerants: Cool50™ and Cool55™

Coolgas offers a number of refrigerants to retrofit R-22. Among them are R-407A, R-407C and our Cool50™ (R-424A) and Cool55™ (R-434A). While R-407A and R-407C are some of the best options available regarding capacity and efficiency match to R-22 for refrigeration and A/C respectively, they require an oil change to POE. Both Cool50™ and Cool55™ offer an excellent compromise since they will normally work with mineral or alkyl benzene oils, while maintaining comparable performance to R-22. Another advantage is that they have a very low glide, especially for Cool55™, which is below 3°F making it suitable for flooded evaporator applications.

## Regulatory News

**More on the anti-dumping Chinese R-134a case:** Countervailing duties (CVD) have been imposed by the US on all R-134a chinese imports. The CVD are anywhere from 16.8 to 28% and they are effective immediately. The next step is a determination on the Anti-Dumping (AD) portion. The deadline for that is May 21st. We will continue to monitor the situation and update you on future editions.

## Regulatory News Continued

**Indian-US agreement:** the Indian and US governments jointly agreed to form a Climate Change Working Group to focus on the phase down of HFC where economically viable and technically feasible. A similar declaration was issued by leaders of the G-20 group after their meeting.

**California and HFC's:** California's EPA Air Resources Board (ARB) has drafted a set of proposals and goals affecting HFCs. Amongst them are to require low GWP gases when feasible and cost effective, introduction of mitigation fees on HFC, develop a comprehensive mitigation strategy by 2015 and work with the US EPA to align national standards with those of the European Union on F-Gas regulations.

## Refrigerant Buybacks and CFC Destruction Projects



Coolgas is pleased to offer its customers top dollar to purchase used or stockpiled refrigerants. Coolgas will provide refrigerant recovery cylinders and arrange for the freight to and from your location. Each refrigerant has a different market value, and that fluctuates in time. The more refrigerant you have to sell, the higher the value per pound. As an added bonus, Coolgas will pay customers for their used refrigerant in between 5 to 10 days from the time it arrives at our state-of-the-art processing facility in Magnolia TX.

Certain CFC refrigerants that we purchase (R-11, R-12, R-500, R-113, etc.) go toward our ODS destruction projects. Coolgas takes these CFCs that can no longer be manufactured in the US, and rather than reselling them, it destroys them. These CFC destruction projects have proven to vastly reduce GHG emissions when compared to a resale. The end result of these projects is the issuance GHG Offset Credits that can be used by companies to comply with GHG programs, or a sustainability mandate to reduce their overall GHG emissions impact from their operations. Coolgas still pays the market value for these refrigerants, and our customers appreciate the fact that they are contributing to environmentally friendly projects. As an example, we recently purchased about 16K lb of R-500 from a prominent university that was overhauling two large chillers.

We paid the university over \$200K for the used gas, and by destroying it, we avoided the release of 50,000 MT of CO<sub>2</sub> equivalent.

The university was able to use the money we paid them to offset a portion of the costs of overhauling the chillers, and we worked with their sustainability department to make sure they were able to talk about their positive effect on the environment by working with us, rather than a company that was going to repackage the gas for resale.

## New Pressure/Temperature chart and updated literature

Our pressure/temperature (P/T) charts have been revised and updated with the addition of several new commercial refrigerants. The new P/T charts are available to download from our web site at [www.coolgas.com](http://www.coolgas.com), or you can request hard copies from your sales rep.

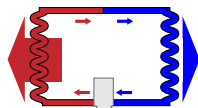
We are now offering retrofit labels for Cool50™ (R-424A) and Cool55™ (R-434A). They are useful to identify a system after it has been retrofitted to either of these two R-22 alternatives. Contact your sales rep to obtain them for free.

New Brochures with technical information on Cool50™ and Cool55™ will be put on our web site during the second quarter of 2014. They will contain more pertinent information for the USA market, have properties in English units and updated contact information. You will be able to download them for free from our site. We are also working on a Facebook page that will be released soon.



## Tech Brief

Which R-22 retrofit refrigerant can be used in systems with flooded evaporators and why?



Systems with a flooded evaporator have the same basic requirements for an R-22 retrofit refrigerant than any other systems have. However, they have additional requirements related to glide/fractionation due to the way their evaporator work. In direct expansion systems, the entire flow of refrigerant entering is vaporized as it exits it and the glide is seen as a difference in temperature along the surface of the evaporator. In a flooded system, while the mass flow rate entering and exiting is the same, the actual refrigerant doing so is not. The cause for this is refrigerant fractionating inside the evaporator causing the liquid and vapor phases to be of a different composition. The vapor exiting the evaporator will be high in the high boiling components of the refrigerant and the liquid left behind will be high in the rest. If the glide of a refrigerant is high, the change in composition is of such magnitude that it will not allow the system to operate efficiently and at capacity, if at all. This is why only single component refrigerants such as R-22 or those with very low glide like R-410A are used in such applications.

This means that very few refrigerants can be used to retrofit a flooded evaporator R-22 system. Our Cool55™ refrigerant is unique in that regard because it has a glide of less than 3°F while maintaining high capacity and efficiency in a flooded evaporator system. Glide depends on several factors such as temperature and pressure, but unfortunately, the industry has not selected a standard condition to report it. We report ours at worst conditions, so be careful when comparing data from different sources.

## Questions from our Readers Ask Gus

Gerry R. from Ohio asked: Can I use R-407C to retrofit a R-22 chiller?

Gerry, no, it is not recommended. While R-407C is a great refrigerant in many applications, a chiller with a flooded evaporator will cause it to fractionate and perform poorly. See the explanation on why elsewhere in this Newsletter. Also, be sure to check our Cool55™ refrigerant for systems with flooded evaporators.

Jeremy C. from California asked: is there a price premium for Cool50™ and Cool55™ as compared to R-22?

Jeremy, no, there isn't. In fact, both are cheaper on a per pound basis than R-22. They used to be much cheaper but with the softening of the R-22 market the price of R-22 is now only a little more than that of the retrofit blends. Check with your sales rep for specific pricing in your quantities.

## Send us your Questions!

[AskGus@coolgas.com](mailto:AskGus@coolgas.com)

Coolgas, Inc. would like to help you with your refrigerant questions. If you need any information or have any questions that you need answers to, please email us to: [AskGus@coolgas.com](mailto:AskGus@coolgas.com) and we will try to answer them here. Please remember that this is only for general, non-emergency questions regarding our refrigerants. We will select interesting general questions and will print them here with their answer. For any questions needing an immediate response, please continue using your current channels of communication with the Coolgas staff.

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