



A-Gas RemTec, a sister company to Coolgas under the A-Gas Americas banner, offers a number of useful services in the refrigerant and fire protection areas complementing Coolgas. A-Gas RemTec also offers emergency (24/365) recharge services of Halon 1301, HFC-125 & 227ea and Novec 1230.

Their refrigerant related services include:

- **Cylinder Inspection and Tracking:** refillable cylinders will be leak tested, have their DOT test dates verified and their general condition assessed. Depending on the condition, the cylinder could be made ready for use, disposed of, or re-inspected. In addition, cylinder serial numbers will be entered into our tracking database so customers can access their cylinder's relevant information.
- **Recovery:** most material left in the cylinders can be recovered to empty it and reuse it. In case of disposable cylinders and cans, A-Gas RemTec's patented Cylinder Piercing Technology (CPT) can be used to empty cylinders with defective valves.
- **Testing:** A-Gas RemTec's lab is fully accredited by AHRI to run the full AHRI-700 purity test.
- **Reclaiming:** Recovered refrigerants can be filtered, distilled, separated from oil, dried and re-blended to bring back to full spec.
- **Destruction:** For those recovered refrigerants that cannot be reclaimed, A-Gas RemTec can use its state-of-the-art destruction facility following federal standards.
- **Banking:** A-Gas RemTec can assist with banking refrigerants and its recordkeeping. Storage can be done at a customer's choice of location or at our controlled and secured area.
- **Packaging:** A-Gas RemTec can work with customer to assist in packaging refrigerant in their own approved specialized containers.

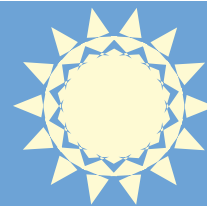
Whether you need to purchase virgin refrigerant or utilize a specialized refrigerant service, Coolgas and A-Gas RemTec can help. Contact us for further information.

Do you need help deciding which one of our R-22 Retrofit Refrigerants to use? Need Retrofit Training for your Group?

Coolgas offers a number of refrigerants to retrofit R-22, among them R-407A, R-407C, Cool50™ (R-424A) and Cool55™ (R-434A). Selecting the right one for your application may be difficult. There are trade-offs regarding capacity, efficiency, ease of retrofit and other performance issues. Both Cool50™ and Cool55™ offer an excellent compromise since they will normally work with mineral or alkyl benzene oils, and maintain comparable performance to R-22. An additional advantage of Cool55™ is its very low glide (below 3 °F) making it suitable for flooded evaporator applications.

If your group needs assistance deciding what refrigerant to use or needs retrofit training, Coolgas can help. Contact your sales representative for information on how to host a retrofit seminar at your facility.

New Product Leak Trace Gas

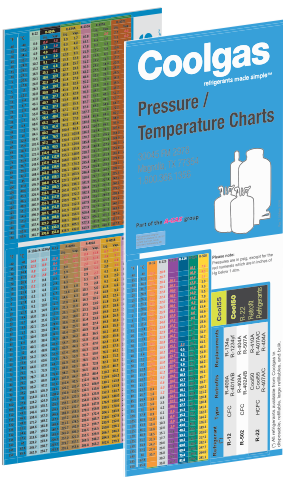


We at Coolgas are excited to be getting ready to launch a new product as an addition to our refrigerants line. It will consist of a leak trace gas that will help technicians find even the smallest leaks. We are putting several kits together that will contain from everything a technician needs to start using it to just a gas refill. We will make an announcement on our website when this is released, along with special offers for it.

Technical Data Sheets (TDS) and Updated Literature

In addition to our new pressure/temperature (P/T) charts that now include our Cool50™ and Cool55™ refrigerants, we have also updated and posted new informational brochures for our R-22 alternatives. They are full of relevant information to help users select the best refrigerant for their application. We also have created and posted technical data sheets (TDS) on every refrigerant with relevant information on uses and applications, thermodynamic properties, compositions, etc. However, should you need more information, please visit our web site at www.coolgas.com or contact us at askgus@coolgas.com where you can download literature, MSDS, technical data sheets and other useful information.

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.



Pressure Temperature Charts

Now Available

You can get yours online at <https://coolgas.com/technical-info/> or in print by requesting one from your sales rep.

Regulatory News

EPA to Modify Section 608: The EPA has published in the Federal Register its intention to modify the venting rules under section 608 of the National Recycling and Emissions Reduction program. Under the new modified rules, hydrocarbon (HC) refrigerants are exempt from the venting prohibition. Coolgas is opposed to this modification on several grounds. First, it sends the wrong message to contractors about the need to recover, recycle and reuse refrigerants. Second, and most importantly, HC are highly flammable, and their release under the wrong conditions could create an extremely hazardous condition. We encourage you to oppose this change as well.

EPA's SNAP Delisting of Several HFCs: The EPA published in early July of this year, a notice of proposed ruling making (NPRM) that would make it illegal to use several HFCs in new or retrofit applications within the next few years. The list includes a number of common refrigerants like R-134a for auto A/C and others you may be using today. Check the EPA web site for specific details on what HFCs may be banned. This is only a proposed rule, so the EPA will accept comments for 60 days before finalizing the rule. Be sure to tell the EPA what you think before the comments period closes

More on the anti-dumping case against Chinese R-134a: We had previously reported that countervailing duties (CVD) had been imposed by the US government on all R-134a Chinese imports, with CVDs from 16.8 to 28% depending on the exporter/producer and that they were effective immediately. Now, in addition to CVD, Anti-Dumping (AD) penalties have been assessed. The overall China-Wide rate is set at 237.33%. This will mean an end to Chinese R-134a priced below US market prices. More hearing and final rulings are continuing until November 24th, 2014 when the federal government will issue the final order.

AHRI-700 2014 released: The American Heating and Refrigeration Institute (AHRI) has approved the latest version of its spec AHRI-700 that lists the purity levels of commercial refrigerants. Please note that one difference between this version of the spec and previous releases is the addition of non-fluorinated refrigerants to the tables. The spec can be downloaded from the AHRI web site at www.ahrinet.org.

Warnings to Technicians and Equipment Owners!

Know Who You Buy Your Refrigerants From! The R-40 Issue:

Counterfeiting of refrigerants is not new and, unfortunately, it continues today. The price of some refrigerants makes it particularly attractive for some unscrupulous people to engage in this practice. You could start analyzing a sample from every single cylinder you buy, or alternatively, you could only buy from reputable and well-known companies which guarantee the quality of the refrigerants they sell.

One such case deals with R-40. There has been several reports of R-134a containing large quantities of R-40. R-40 is originally intended as a solvent and not a replacement of R-134a. R-40 reacts with aluminum and creates toxic and explosive conditions. There has been reports of injuries and even deaths overseas during the service of contaminated systems. It has been reported that a large number of military vehicles serviced overseas may also be contaminated. Coolgas' QC department, through repeated analyses and product stewardship, helps in making sure that no contaminated refrigerant is sold using our packaging.

R-22a and Flammable Refrigerants:

The EPA has released a warning against recharging A/C systems with the wrong refrigerant due to injury and fire risk. The press release posted on their web site, specifically warns against the use of R-22a (a highly flammable mixture of hydrocarbons) advertised as a replacement for R-22 in residential A/C systems. The EPA reports that it is investigating and will take enforcement actions where appropriate. The same warning applies to the use of unapproved flammable hydrocarbon blends used in auto A/C. Only SNAP approved refrigerants can be legally used. For a list of those check the EPA's web site at www.epa.gov/ozone/snap.



Tech Brief

How do I calculate superheat (SH) and subcooling (SC) in a blend with high glide?

Calculating the SH or SC of a single component refrigerant is relatively simple. Just take the difference between the saturation temperature corresponding to the pressure at the location being measured, and the actual temperature. For example, if we measure a temperature of 135 °F and a pressure of 260 psig at a location in the high side of our R-22 system, the SH is then $135 - 120 = 15$ °F, where 120 °F is the saturation temperature of R-22 at 260 psig. When dealing with blends, the complication comes from the fact that two columns of different temperatures are listed per each refrigerant blend in the P/T charts. In this case, all you need to remember is that for SH calculations, you need to use the vapor column and for SC you use the liquid column. Then proceed as usual. If we ran the same example as before, but now for R-407C, the vapor saturation temperature for 260 psig is 119 °F, so the SH is $135 - 119 = 16$ °F. SC calculations are done similarly, but using the values from the liquid column. Note that in the case of some blends such as R-410A or R-404A only one column is listed, and there is no indication of whether the listing is for vapor or liquid. In those cases, since the differences in pressure between liquid and vapor are so small, only the liquid values are shown and they should be used for both SH and SC calculations.



Questions from our Readers

Ask Gus

Joel R. from Indiana asked:

What happens when my system using R-407A has a leak, is all the refrigerant ruined?

Joel, it all depends on how the leak occurred. If the leaks occurred when the system was mostly running, just fix the leak and recharge with fresh in-spec R-407A. If the leak occurred in the system at rest, but from a location containing mostly liquid, again fix the leak and recharge. The problem is when the leak is from a system at rest and at a mostly vapor location. If the loss of refrigerant is relatively small, chances are it did not affect too much the overall composition of the charge, so you could fix and recharge. If the leaks are larger, say above 25% of the charge, the composition of the remaining charge may have been modified and be out of spec. Recharging may bring the composition back to full spec, or very close to it. I have seen papers and articles showing that in the case of losses up to 30%, you can charge and recharge up to five times, before the overall system charge is significantly out of spec. In some cases, even if the blend is out of spec, it may be so close to spec that only very minor differences in performance will be noted. For critical applications, the only way to be 100% sure is to remove all the charge and replace it with new R-407A. You can have the recovered refrigerant tested by our sister company, RemTec, or any other independent lab of your choice for composition. That way, you will know for sure whether you can reuse the refrigerant or you need to dispose of it. Note that if you are working with blends that have a much lower glide, such as R-410A or R-404A, then this is even less of a problem.

John C. from New York asked:

Where do you see the price of R-22 going to in the near future?

John, while this is not a technical question, it is one that we hear a lot. The true answer is we do not know. One of the most important factors affecting R-22 pricing is what the US EPA will set as the overall allocation for 2015 and beyond. The size of the allocation will have a direct impact setting the volumes of R-22 available in the market in the next 5 years and beyond. Several scenarios have been discussed, from zero allocation to a 3 or 5 year phase out. We are all anxious to see what the allocation will be and its impact on the market. Once there is a ruling, we will have an update here.



Find us on facebook. <http://www.facebook.com/coolgasrefrigerants>

Send us your Questions!

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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 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.