



# NEW RULES

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## YOUR GUIDE TO THE NEW REFRIGERANTS & GAS REGULATIONS

# NEW RULES: Your Guide to the New Refrigerants and Gas Regulations

## What You Need to Know

There is no other way to say it. The fact is that California lawmakers have been busy. With increasing concern for air quality and pollution, exponentially rising energy costs and recent breakthroughs in HVAC technology, our state has generated new regulations and requirements that will affect all home and commercial property owners. If you're thinking about an HVAC replacement or need to repair your current heating and cooling equipment, take note.

Unfortunately, there is a lot of confusing and even conflicting information out there now, especially when it comes to these changing laws and how these new systems and rules will affect your operating costs, whether you're a home or commercial property owner. Luckily, you can count on Air-Tro for straight talk.

Read below for updates about savings, rebates and incentives available for new equipment, what the changes from Sacramento will really mean for you with your existing system, and the pros and cons of all of it.



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## The Backstory: Understand What's Changed

The story begins with a refrigerant called R-410A, also known by its trade name as Puron. First rolled out in 1996 as one of the first replacements for the old standard R-22 (known as Freon), it was heralded as having no impact on the ozone layer, as it had no ozone-depletion properties. All new air conditioners for commercial and residential use were now to use this refrigerant product. HVAC systems that ran on the old, banned refrigerant were either replaced immediately or left to rely upon dwindling, increasingly expensive supplies of the Freon for their repairs.

As of 2022, almost all air conditioners in operation and certainly all new models used this updated refrigerant, R-410A.

## Sounds great, right?

It would be, except by then there were even more energy efficient, low impact refrigerants becoming available. In response, California state senators passed SB-1206, a law that mandated a complete R-410A phase out, with production to cease entirely by 2030. Instead, all new HVAC systems manufactured from 2026 on must use one of two new refrigerants: R32 or R-454B. Subsequently, within the face of dwindling supply, the cost of reclaimed/recycled R-410A for repairing existing equipment will also rise exponentially, just as it did with Freon.



# So, What Now? Know Your Options for the Best AC Refrigerants

How does this R-410A phase out affect our customers? While you can still buy a new air conditioning system for an existing residence from current inventory that uses this older refrigerant, any savvy consumer should be aware that ultimately these models will be phased out, and the price for their refrigerant, now that it's no longer being manufactured, will rise. However, the new refrigerants are also more expensive to install and to use than previous ones, so you'll have to compare current HVAC needs with costs. Your Air-Tro consultant can help you make sense of this potentially bewildering decision.

Here's another thing to consider: while R-454B and R32 are described by their manufacturers as safer than the older, phased out R-410A, far more environmentally friendly and also more energy efficient, the reality is somewhat different. True, both have a better Global Warming Scale rating than previous mixtures, but they provide only a negligible increase in energy efficiency, if any.

And let's talk about flammability. These new refrigerant products are classified as only "mildly flammable" and also as having a low burning velocity, which means that they as a substance class are slow to ignite. Read on to learn more about what exactly this means, and how the phrase "mildly flammable" is a bit like describing something as "mildly explosive" or "only likely to kill you in some circumstances." In other words, understanding the safety requirements of these new refrigerants is imperative. And the bottom line is that now you will be forced to choose from one of these two refrigerants when selecting a new system.



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# Let's Look at Both

## R-454B



### BENEFITS

- Less mechanical stress on your compressor and other HVAC components than R32, so it's likely to extend your system's lifespan by several years compared to one using R32
- Described as "environmentally friendly" with a Global Warming Potential Score of 466
- Compliant with existing and likely upcoming environmental regulations in California

### DRAWBACKS

- More expensive to use and install than previous refrigerants
- More expensive to use and install than R32
- Greater flammability than previous refrigerants. Despite its classification, this refrigerant requires special handling, storage and equipment to protect the consumer and their property. Use of R-454B requires built-in, extra leak and safety mitigation and detection equipment to prevent fires and ignition problems.

## R32



### BENEFITS

- Described as "environmentally friendly" with a low Global Warming Potential score of 675
- Easier to recycle than R-454B
- Cheaper to use than R-454B, more options for its use as a liquid or a gas and cheaper to produce.

### DRAWBACKS

- More expensive than previous refrigerants, both to use and to install
- Flammability. Like R-454B, R32 is also classified as only mildly flammable, but it also requires significant safety features. Built-in, extra leak detection and other mitigation products are also mandated with this type of refrigerant and its usage in any air conditioning system.

# Safety: Your Most Important Choice



As these brief lists suggest, any HVAC system with either of these new refrigerants will require safe, responsible handling. Your local handyman or fix-it guy will likely not be able to install, or service your new HVAC equipment in a safe way with these new products. Things like sensors, leak detection integration, and more are critical to their operation. Regular inspections and maintenance are also essential to prevent disaster. Without these safety protocols in place, either refrigerant can cause great harm to both people and property with their vapors, and even ignition, despite their reassuring classification.

## Understanding Other Changes and HVAC Regulation Trends

Along with these changes to what refrigerants are used now, have we mentioned the South Coast Air Quality Management District?

All residential and commercial property owners should familiarize themselves with their new regulations, too. The SCAQMD has implemented a tough new policy to further zero emission targets. Compliance deadlines have been instituted for transitions to zero emission water heaters and boilers.

While a full ban on residential gas furnaces and water heaters did not pass, consumers will be encouraged to replace old, gas-fired units and install new, electric HVAC systems instead. Check with your HVAC professional to find out how this will affect your current equipment, its repair and future use. You can expect rebates and state tax incentives for these changes, too. If you're a commercial property owner operating any gas-powered equipment in your business, rental apartment or multi-family building, the results of these new regulations may be more onerous. Consider an immediate mechanical energy audit to ensure you are within compliance.





## Heads Up for Commercial and Residential Property Owners:

Another issue that the State Legislature has now taken it upon themselves to address: the temperature inside your house or building. For commercial property owners, CAL OSHA rule 3396 now mandates that employers provide “cooling rooms” for their

employees where the temperature is 82° or cooler whenever the indoor temperature exceeds 87°. Don't get sued by a disgruntled worker. Make sure you have these spaces available.



Residential property owners must also be mindful. Los Angeles County has now mandated that the indoor temperature for any rental unit within unincorporated (i.e. places like Altadena) areas of the county must always be 82° or less. The state legislature has also involved itself, with an upcoming tenant housing rule statewide on allowable indoor temperatures within any rental unit.

## New Questions, New Systems

So perhaps as always, the times, they are a'changing, even in HVAC. Some new regulations won't fully take hold for a while, but you'll see the effects of others almost immediately. Whether your plan is to hold on to your current HVAC



system for as long as possible, or to take advantage of these newer products, our seasoned HVAC professionals can help, with deep product knowledge that comes from years of training and experience. We'll work hard to make sure you have all the information you need to do the right thing for your business, your family, and your home. Because at Air-Tro, we believe our customers should be able to count on some things that will never change.



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