



The 2026 EPA 608 Exam Changes: 25 A2L and A3 Practice Questions

A free study kit for HVAC students, apprentices and instructors · October 2026 edition

What changed in 2026

- The Section 608 question bank was revised. It now covers **A2L refrigerants** (mildly flammable, such as R-32, R-454B and R-1234yf) and **A3 refrigerants** (hydrocarbons such as R-290 propane and R-600a isobutane).
- The revised exam doesn't cover the AIM Act.
- From **January 1, 2027**, exams from the previous question bank are no longer accepted. Technicians who are already certified don't retest, and their cards stay valid.

Source: ACHR News, "What You Need to Know About the New Section 608 Exam," September 19, 2026. Ask your testing program which version you'll take.

How to use this kit

- Part 1 has 17 questions on A2L refrigerants; Part 2 has 8 on A3 hydrocarbons. Each is marked with the exam section it belongs to.
- Answer them all first, then check the answer key, which explains every answer, including why the tempting wrong choices are wrong.
- Instructors: print and share it with your class, unchanged.

The refrigerants in this kit at a glance

REFRIGERANT	CLASS	WHAT IT IS	WHERE YOU'LL FIND IT	AT 70°F
R-32	A2L	HFC	New residential AC and heat pumps, PTACs, window units	206 psig
R-454B	A2L	HFC/HFO blend (R-32 and R-1234yf)	New residential split systems and heat pumps, in place of R-410A	184 to 192 psig
R-1234yf	A2L	HFO	Vehicle air conditioning	74 psig
R-290	A3	Hydrocarbon (propane)	Stand-alone commercial coolers, some window units	110 psig
R-600a	A3	Hydrocarbon (isobutane)	Household refrigerators and freezers	31 psig
R-410A, for comparison	A1	HFC blend	Residential AC and heat pumps made before 2025	201 psig

ASHRAE 34 class: the letter is toxicity (A = lower), the number is flammability (1 = no flame spread, 2L = mildly flammable, 3 = highly flammable). Saturation pressures from the P-T charts in EPA 608 Mastery Pro; R-454B is a blend, shown from dew to bubble point.

These are practice questions written for study. They are not questions from the actual exam, and practice results don't predict an exam score.

Part 1: A2L refrigerants

Mildly flammable refrigerants such as R-32, R-454B and R-1234yf: classification, cylinders, leak sensors, safe service and the venting rules.

1 CORE

What distinguishes an A2L refrigerant, a class heavily featured in next-generation HFOs and HFO blends?

- ☐ (A) They are non-flammable and have low toxicity.
- ☐ (B) They have higher toxicity but are completely non-flammable.
- ☐ (C) They possess low toxicity but are classified as mildly flammable.
- ☐ (D) They are highly flammable and have higher toxicity.

2 CORE

In an ASHRAE Standard 34 safety group such as A2L or B1, what does the letter describe?

- ☐ (A) The refrigerant's flammability class
- ☐ (B) The refrigerant's pressure class
- ☐ (C) The refrigerant's toxicity class
- ☐ (D) The refrigerant's ozone depletion potential

3 CORE

Which refrigerant, now used in many new residential split-system air conditioners and heat pumps, is classified A2L?

- ☐ (A) R-410A
- ☐ (B) R-454B
- ☐ (C) R-22
- ☐ (D) R-744 (carbon dioxide)

4 CORE

Which statement correctly describes R-454B?

- ☐ (A) It is a pure HFO with no HFC content, so it has no measurable global warming potential
- ☐ (B) It is an HFC/HFO blend of R-32 and R-1234yf used in new equipment in place of R-410A
- ☐ (C) It is an HCFC blend designed as a drop-in for existing R-22 systems
- ☐ (D) It is a hydrocarbon blend classified A3 for small self-contained appliances

5 CORE

The A2L refrigerant R-1234yf is found mainly in which application?

- ☐ A Large centrifugal chillers in office buildings
- ☐ B Household refrigerators and chest freezers
- ☐ C Industrial cold-storage warehouses
- ☐ D Vehicle air conditioning

6 TYPE I

A technician who services R-410A PTACs starts working on units charged with R-32. How do R-32 operating pressures compare with R-410A?

- ☐ A About half as high, like R-134a
- ☐ B Close to R-410A, and slightly higher
- ☐ C Below atmospheric on the low side, like R-600a
- ☐ D Several times higher, like a CO2 system

7 CORE

How can a technician identify a new cylinder of R-454B as containing a flammable refrigerant before connecting to it?

- ☐ A It has a red band on the top or shoulder and a left-hand-thread valve outlet
- ☐ B It is painted solid red all over so it stands out from other cylinders
- ☐ C It has a yellow top and a gray body, like other recovery cylinders
- ☐ D It has a rose (pink) body, the same color used for R-410A cylinders

8 TYPE I

A technician tries to connect a standard hose to a new cylinder of R-32, but the fitting won't thread on. What is the likely reason?

- ☐ A The cylinder valve is seized and should be loosened with a longer wrench
- ☐ B Flammable-refrigerant cylinders use left-hand threads, so an A2L adapter is needed
- ☐ C R-32 cylinders use metric threads that require replacing the whole manifold
- ☐ D It is a recovery cylinder, which accepts only hoses made for the liquid port

9 CORE

While a technician recovers R-32 from a rooftop unit, a helper wants to light a cigarette nearby. What is the correct response?

- ☐ A Allow it if the helper stays upwind of the recovery machine
- ☐ B Allow it once the recovery machine has been switched off
- ☐ C Allow it as long as the system is under a vacuum at the time
- ☐ D No smoking or open flames in the work area

10 CORE

Which leak detection method must never be used on a system charged with an A2L or A3 refrigerant?

- ☐ (A) An electronic detector rated by its maker for A2L refrigerants
- ☐ (B) A halide torch, because its open flame can ignite a leak
- ☐ (C) A bubble solution brushed or sprayed on the joints
- ☐ (D) A standing pressure test using dry nitrogen

11 CORE

After recovering R-32 from a system, the technician starts the evacuation. What is the safe practice for the vacuum pump?

- ☐ (A) Use any pump, because all of the R-32 is recovered before evacuation starts
- ☐ (B) Use an A2L-rated pump with its exhaust away from ignition sources
- ☐ (C) Use a pump with an oil-mist filter so the exhaust can stay indoors
- ☐ (D) Use any pump rated for R-410A, since the pressures are similar

12 CORE

A technician must braze a new filter-drier into a system charged with R-454B. What is the correct sequence?

- ☐ (A) Recover the refrigerant, evacuate, purge with dry nitrogen, then braze with nitrogen flowing
- ☐ (B) Isolate the charge on one side of the system, open the line, then braze without a purge
- ☐ (C) Recover down to about 0 psig, open the line, and braze while the rest vents out
- ☐ (D) Braze with the charge in place, since A2L refrigerants burn too slowly to ignite

13 TYPE II

Many new R-454B split systems have a refrigerant sensor in the indoor unit. If it detects a leak, what does the system typically do?

- ☐ (A) Runs the indoor blower to dilute the leak and stops the compressor
- ☐ (B) Sounds an alarm but leaves every component running as before
- ☐ (C) Closes the service valves and vents the charge outdoors
- ☐ (D) Shuts off the blower so refrigerant stays in the ductwork

14 TYPE II

Why is the refrigerant sensor in an A2L air handler usually mounted low, near the bottom of the coil?

- ☐ (A) Heat rising from the furnace would ruin a sensor mounted high
- ☐ (B) The sensor works only when wet with drain pan condensate
- ☐ (C) It is the only spot the wiring can reach
- ☐ (D) Leaked A2L vapor is heavier than air and settles

15 CORE

An R-410A system is low on charge. Because R-454B also uses POE oil, the owner asks the technician to top it off with R-454B. What is the correct response?

- ☐ (A) It is acceptable once any mineral oil left in the system has been flushed out
- ☐ (B) No. Matching oil does not make R-454B a drop-in; it goes only in equipment designed for it
- ☐ (C) It is acceptable as long as the R-454B added is well under half of the system's total charge
- ☐ (D) No. R-454B requires PAG oil, which cannot be mixed with the POE in the system

16 CORE

A technician argues that because A2L refrigerants such as R-454B are flammable like hydrocarbons, they share the hydrocarbon venting exemption. Is this correct?

- ☐ (A) Yes; any flammable refrigerant may be vented outdoors away from ignition
- ☐ (B) Yes, but only when the system charge is less than 5 pounds of refrigerant
- ☐ (C) No; only CO₂ and nitrogen are exempt, and hydrocarbons must be recovered
- ☐ (D) No; exemptions list specific substitutes and end uses, and no A2L is listed

17 TYPE II

Why can't an existing R-22 system be charged with R-32 once the R-22 has been recovered?

- ☐ (A) R-32 is a CFC that was phased out along with R-12 in 1996
- ☐ (B) The system was not designed and listed for a flammable A2L refrigerant
- ☐ (C) R-32 runs at lower pressures than R-22, so the system would not cool
- ☐ (D) R-32 is approved only for motor vehicle air conditioning systems, not homes

Part 2: A3 hydrocarbons

Highly flammable refrigerants such as R-290 (propane) and R-600a (isobutane): classification, venting exemptions and safe service.

18 TYPE I

What distinguishes an 'A3' classification refrigerant, such as R-600a, making it subject to strict maximum charge limits in domestic appliances?

- (A) It is highly toxic, and even brief exposure to a small leak can damage the lungs of occupants.
- (B) It is highly flammable and poses an explosion risk if it pools in an enclosed space.
- (C) It contains high levels of ozone-depleting chlorine, so the charge is limited to reduce emissions.
- (D) It operates at supercritical pressures, like a CO2 system.

19 CORE

Why is the venting of isobutane (R-600a) in a household refrigerator treated differently under EPA rules compared to venting R-134a?

- (A) Isobutane is a CFC and is strictly prohibited from being vented under any circumstances.
- (B) Isobutane is exempt from the venting prohibition in this SNAP-approved end use.
- (C) Isobutane has a much higher GWP than R-134a and requires specialized high-pressure recovery.
- (D) Isobutane is liquid at room temperature and cannot be technically 'vented.'

20 TYPE I

A technician argues that because R-600a may be vented from a household refrigerator, any hydrocarbon may be vented from any appliance. What is wrong with this?

- (A) The exemption applies only when the technician holds Universal certification
- (B) The exemption covers only appliances built before hydrocarbons were first regulated
- (C) Nothing; all hydrocarbons are exempt because they have no ozone depletion potential
- (D) The exemption covers only listed end uses where the hydrocarbon is SNAP-approved

21 TYPE I

R-290 may be vented from a window air conditioner where it is SNAP-approved. May the R-32 in another window unit be vented too, since R-32 is also flammable?

- (A) Yes; all flammable refrigerants are exempt
- (B) No; R-32 is not an exempt substitute
- (C) Yes, if it is released outdoors
- (D) Only if the unit holds less than 1 lb of it

22 TYPE I

Equal amounts of refrigerant leak into a room from an R-32 window unit and from an R-290 window unit. Why is the R-32 leak less likely to ignite?

- (A) R-32 is lighter than air, so it rises and escapes through the vents near the ceiling
- (B) R-32 needs a much higher concentration and ignition energy to burn
- (C) R-32 contains no hydrogen atoms, so it cannot react with oxygen in the air
- (D) R-32 cannot burn at normal room temperature

23 TYPE I

Some newer window air conditioners use R-290 (propane). Its operating pressures are closest to those of which refrigerant?

- (A) HCFC-22 (R-22)
- (B) HFC-134a (R-134a)
- (C) CO₂ (R-744)
- (D) HFC-23 (R-23)

24 CORE

After recovering R-290 from a stand-alone commercial cooler, why should the technician purge the circuit with dry nitrogen before opening it with a torch?

- (A) To raise the pressure so the joints can be checked for leaks first
- (B) To cool the tubing so the brazing alloy flows into the joint better
- (C) To flush out residual flammable refrigerant
- (D) To dry out the POE oil that remains in the compressor crankcase

25 TYPE I

A refrigerator designed for R-600a is compared with a similar R-134a model. How does its refrigerant charge weight compare?

- (A) Much smaller, often less than half the R-134a charge
- (B) About the same, since the cooling load is the same
- (C) About twice as heavy, because isobutane is much less dense
- (D) Somewhat larger, to make up for its much lower pressures

Answer key

Every answer, with the reasoning behind it.

- 1 C** Under ASHRAE Standard 34, the 'A' designates low toxicity, and '2L' indicates mild flammability with a low burning velocity. Many new environmentally friendly refrigerants (like R-32 and R-1234yf) fall into this category, requiring updated safety protocols for technicians.

- 2 C** ASHRAE Standard 34 safety groups combine a letter and a number: the letter is toxicity (A = lower toxicity, B = higher toxicity) and the number is flammability (1, 2L, 2, 3). Flammability is shown by the number, not the letter, and ASHRAE 34 safety groups say nothing about pressure class or ozone depletion.

- 3 B** R-454B is an A2L blend of R-32 and R-1234yf used in new residential air conditioners and heat pumps in place of R-410A. R-410A and R-22 are A1 (non-flammable) refrigerants, and R-744 (carbon dioxide) is also A1.

- 4 B** R-454B is a blend of the HFC R-32 and the HFO R-1234yf, classified A2L, and it is used in newly designed equipment as the replacement for R-410A. Because it contains R-32 it still has a GWP (about 466, roughly one-fifth of R-410A's 2,088), so it is not zero; it contains no chlorine, so it is not an HCFC.

- 5 D** R-1234yf is an HFO that has largely replaced R-134a in new motor vehicle air conditioning. Household refrigerators increasingly use the A3 hydrocarbon R-600a (isobutane), and industrial cold storage commonly uses ammonia (R-717), so those are the tempting but wrong choices.

- 6 B** R-32 runs at pressures close to, and slightly above, those of R-410A, which is itself half R-32. Gauges, hoses, cylinders and recovery equipment must be rated for these pressures and, because R-32 is A2L, for use with flammable refrigerants.

- 7 A** AHRI Guideline N requires a red band on the shoulder or top of any container of flammable refrigerant, and A2L cylinders also use a left-hand-thread valve outlet so the standard right-hand fittings used with non-flammable refrigerants will not connect without an adapter. Guideline N no longer assigns body colors to refrigerants, so the technician should also read the label. Rose was the old color for R-410A, a non-flammable refrigerant, and a yellow top with a gray body is the recovery-cylinder color scheme, not a flammability marking.

- 8 B** Most cylinders of flammable refrigerants, including A2Ls such as R-32 and R-454B, now have left-hand threaded valve outlets so they can't be connected by mistake to equipment for non-flammable refrigerants. This is an industry convention, not an EPA rule. Use the correct adapter and A2L-rated equipment; don't force the fitting.

- 9 D** R-32 is an A2L (flammable) refrigerant, so smoking and open flames must be kept out of the work area while it is handled. Standing upwind or waiting until the machine is off does not remove the risk, because refrigerant can still be released from hoses, fittings, the cylinder or the system.

- 10 B** A halide torch works by drawing refrigerant through an open flame, which can ignite a flammable refrigerant. Bubble solution and a nitrogen standing pressure test create no ignition source, and an electronic detector is acceptable when its manufacturer rates it for A2L or A3 refrigerants.

- 11 B** Some refrigerant remains in the system after recovery and passes through the pump, so the pump should be rated for A2L refrigerants (a non-sparking motor and switch) and its exhaust directed to a ventilated area away from ignition sources. Similar operating pressures do not make an R-410A pump spark-free, and an oil-mist filter does not remove refrigerant vapor.

- 12 A** Before any open-flame work on a system that held a flammable refrigerant, the refrigerant must be recovered, the system evacuated and then purged with dry nitrogen to remove residual refrigerant; flowing nitrogen while brazing also prevents oxide scale. A2L refrigerants burn slowly but can still ignite, and letting the remainder vent is both unsafe and a venting violation.
-
- 13 A** Under UL 60335-2-40, A2L systems above certain charge sizes need a refrigerant detection system. When it senses a leak it starts the indoor blower to mix the refrigerant below its flammable level and disables the compressor and other potential ignition sources until the refrigerant has cleared, after which normal operation can resume.
-
- 14 D** R-32, R-454B and other A2L refrigerants are much heavier than air (R-32 has a molecular weight of about 52, air about 29), so a leak sinks and collects in low spots. Mounting the sensor low lets it detect the refrigerant where it would accumulate. Sensors are not designed to be wet with condensate or to be placed for wiring convenience.
-
- 15 B** R-454B systems generally use POE oil like R-410A, but that does not make R-454B a drop-in replacement: an A2L refrigerant may be used only in equipment designed and listed for it, with its safety features, and topping off would also mix two refrigerants. Oil compatibility is the tempting reason to say yes; R-454B stationary equipment does not use PAG oil.
-
- 16 D** The venting exemptions in 40 CFR 82.154(a)(1) name specific substitutes in specific end uses, such as propane or isobutane in certain self-contained appliances; flammability does not create an exemption, and no A2L refrigerant is on the list. Hydrocarbons are exempt in their listed end uses, so the claim that they must always be recovered is also wrong.
-
- 17 B** EPA's SNAP listing allows R-32 only in new equipment designed for it that meets the applicable UL safety standard, such as UL 60335-2-40 for air conditioning, which covers leak detection, ignition sources and charge limits for A2L refrigerants. An R-22 system was built for a non-flammable refrigerant, and R-32 also runs at far higher pressures than R-22. R-32 is an HFC, not a CFC, and it is widely used in stationary air conditioning.
-
- 18 B** The 'A' stands for low toxicity, and the '3' designates high flammability. Because small appliances are used indoors in living spaces, the EPA's SNAP program strictly limits the amount of A3 refrigerant allowed in each refrigerant circuit to minimize the explosive potential of a leak.
-
- 19 B** Isobutane (R-600a) is a hydrocarbon. EPA exempts certain hydrocarbons, including isobutane in household refrigerators and freezers, from the venting prohibition only in specific end uses where they are SNAP-approved. Carbon dioxide, nitrogen and water, by contrast, are exempt in any application. R-134a is a non-exempt HFC and must be recovered.
-
- 20 D** The hydrocarbon exemption in 82.154(a)(1) applies only to specific refrigerants in specific end uses listed in the rule, where SNAP approves them. It is not a blanket exemption for all hydrocarbons. Zero ODP alone does not exempt a refrigerant from the venting prohibition.
-
- 21 B** The venting exemptions in 82.154(a)(1) list specific substitutes in specific end uses, such as R-290 in room air conditioners. R-32 is not on the list, so it is a non-exempt substitute: it must be recovered (safe practice calls for equipment rated for flammable refrigerants), and knowingly releasing it is a violation wherever it happens and however small the charge.
-
- 22 B** R-32 is an A2L refrigerant: its lower flammability limit is several times higher than propane's, and it needs far more energy to ignite, so a small spark that would light R-290 often will not light R-32. It can still burn, so ignition sources must still be controlled. R-32 (CH₂F₂) is heavier than air and does contain hydrogen.
-

- 23 A** Propane's pressure-temperature curve is close to R-22's (about 110 psig vs 121 psig at 70°F), which is why R-290 appears in equipment sized like older R-22 units. It runs well above R-134a and far below R-744 or R-23.
-
- 24 C** Even after recovery, some hydrocarbon remains in the tubing and dissolved in the oil; purging with dry nitrogen flushes it out so the torch cannot ignite it. Nitrogen is also used for pressure tests and during brazing to prevent scale, but the reason for the purge before opening a flammable-refrigerant circuit is to remove the fuel. A nitrogen purge is not a way to dry compressor oil.
-
- 25 A** Hydrocarbons are much less dense than HFCs and move more heat per pound, so an R-600a charge is typically well under half the weight of the R-134a charge it replaces. That small, critical charge is why it must be weighed in precisely.
-

Want more practice?

These 25 come from **EPA 608 Mastery Pro**, a study app updated for the 2026 EPA 608 exam changes, for iPhone, iPad and Android.

- 1,100+ practice questions across Core, Type I, Type II and Type III, every answer explained
- More than 50 questions on A2L refrigerants (most are in Premium)
- Timed 100-question mock exams, graded section by section against the 70% pass mark
- Spaced-repetition flashcards, P-T charts and a superheat and subcooling calculator
- Works offline, with no account, no ads and no tracking

Free to download with 200 questions and one full mock exam. One purchase unlocks everything; there is no subscription.



iPhone and iPad

App Store: search "EPA 608 Mastery Pro"



Android

Google Play: search "EPA 608 Mastery Pro"

Sources. U.S. EPA Section 608 ([epa.gov/section608](https://www.epa.gov/section608)); 40 CFR Part 82, Subpart F ([ecfr.gov](https://www.ecfr.gov)); ASHRAE Standard 34; AHRI Guideline N; UL 60335-2-40; ACHR News, September 19, 2026.

EPA 608 Mastery Pro is an independent educational tool. It is not affiliated with, endorsed by, or connected to the United States Environmental Protection Agency, ESCO or any certifying organization. Always follow the equipment manufacturer's instructions and your local codes.

© 2026 Sarafand Engineering Solutions LLC · sarafandengineeringsolutions.com ·

info@sarafandengineeringsolutions.com. You may print and share this kit, unchanged, for study and classroom use.