



MITSUBISHI ELECTRIC TRANE HVAC US



A2L Fact Sheet

In June 2021, the EPA approved A2L refrigerants for use in residential A/C applications and the phase out of A1 refrigerants. Popular refrigerant options include the commonly known R-32 and R-454B.

What is A2L?

A = Non-toxic

2 = Flammable

L = Low Burning Velocity

You need 1,000 times more energy to ignite A2L than to ignite propane, and A2L will self-extinguish.

- UL60335-2-40 implemented strict safety requirements for the design of systems with A2L refrigerants.
- All building codes have been updated for guidance on installing systems.
- AHRI has formed a task force to ensure industry training takes place.

Why A2L?

In terms of service, the transition to A2L refrigerants won't necessitate significant alterations in technicians' operations. While A2L refrigerants are considerably less flammable than Class II and III refrigerants, they will demand an increased focus on fundamental service principles, new equipment, and some tools rated for A2L use.



A2L lowers the effects of Global Warming Potential (GWP)



A2L refrigerants are considered non-toxic and mildly flammable

Flammability Chart

Highly Flammable	A3 Propane	B3 No Refrigerant
Flammable	A2 R152a	B2 R1132(E)
Lower Flammability	A2L R1234yf	B2L Ammonia
No Flame Propagation	A1 R134a	B1 R123

Lower Toxicity

Increased Toxicity

Regulatory Changes

2023

Efficiency Changes and IRA

- DOE Eff. and MI (SEER2/HSPF2)
- Energy Star 6.1 & CEE 25C Tax Credit
- HEAR (Home Electrification and Appliance Rebates)
- HOMES

2024

Low GWP (A2L) Refrigerants Referenced

- UL 60335-2-40
- Uniform Mechanical Code (UMC)
- International Residential Code (IRC)
- International Mechanical Code (IMC)
- California Mechanical Code (CMC)

2025

Low GWP Transition | <700 GWP

- 1-phase, <65 kBtu/h
 - Single-zone
 - Multi-zone

2026

Low GWP Transition | <700 GWP

- 3-phase, >65 kBtu/h
 - VRF

Benefits of Systems with R-454B

Servicing:

- Transitioning from R-410A to R-454B maintains consistent charging and servicing techniques, as both refrigerants are low glide blends.
- Charge limits will be determined based on factors such as the room's square footage and design criteria.
- For R-454B systems, it's essential to purge before brazing, perform pressure test and evacuation.
- To handle R-454B effectively, reclaiming equipment and other servicing tools must be A2L-certified.
- This includes the use of separate hose sets for each unique refrigerant.

More models/capacities qualify* Entire new series qualify (HX, UX)* *targeted

Indoor Units:

- Factory-installed leak detectors on most units.
- Active mitigation controls sequence for leaks.
- Audible alarm when using optional wall mount controller.

Outdoor Units:

- Efficient heat exchanger design to minimize refrigerant charge.
- Built in shut off valves on larger systems.

410A to 454B Product Features



Up to 20% improvement

in system performance metrics
(Determined by model/capacity)



Dual Barrier Coating



Built-in Wireless on most models

(Wall-mount, Floor-mount, MLZ)



Questions or Feedback on A2L? Scan this QR to send your feedback directly to the team

