

CARB

California Air Resources Board

Sales Support Guide



THERMO KING

TRAILER, TRUCK & DOMESTIC SHIPPING CONTAINER

REFRIGERANT \leq 2,200 GLOBAL WARMING POTENTIAL (GWP)

2477.13(a)

Beginning December 31, 2022, TRU OEMs shall not manufacture for sale or use in California, a truck TRU, ZE truck TRU, trailer TRU, or DSC TRU, unless that TRU uses a refrigerant with a GWP value less than or equal to 2,200, or uses no refrigerant at all.

2477.13(a)(1) The TRU shall include a refrigerant label that is readily visible and legible, and include the following statement, or its equivalent: "THIS UNIT CONTAINS REFRIGERANT WITH A GWP LESS THAN OR EQUAL TO 2,200 AND IS COMPLIANT FOR USE IN THE STATE OF CALIFORNIA."

2477.5(a)(1)

Beginning December 31, 2022, no owner or owner/operator shall operate or cause to be operated in California, a TRU with a manufacture date after December 31, 2022, unless the TRU uses a refrigerant with a GWP value less than or equal to 2,200, or uses no refrigerant at all.

2477.5(a)(2)

Beginning December 31, 2022, no owner or owner/operator shall operate or cause to be operated in California, a TRU with a manufacture date after December 31, 2022, with an unreadable or inadequately maintained TRU OEM supplied refrigerant label.

REGISTRATION

2477.5(g)(3)

California-based TRUs added to an owner's or owner/operator's operations after January 31, 2009 and non-California based TRUs added to an owner's or owner/operator's operations after December 31, 2023 shall be brought into compliance with section 2477.5(g)(1) and (2) within 30 days of the unit entering the owner or owner/operator's control or beginning operations in California. The owner or owner/operator shall request:

2477.5(g)(3)(A) A CARB IDN for a new TRU that was not previously numbered, or

2477.5(g)(3)(B) A change in owner or owner/operator for a TRU that already has a CARB IDN number.

LABELING

2477.5(i)(2)

Beginning December 31, 2023, upon verifying the information reported under section 2477.5(g) and all TRU operating fees have been received in accordance with section 2477.5(h), the Executive Officer shall issue two compliance labels for each TRU.

2477.5(i)(3)

Within 30 days of receipt of the CARB compliance labels, owners or owner/operators shall affix the labels in clear view, correct side up, unobstructed; and kept and maintained in a manner that retains legibility. The location of the label shall be as follows:

2477.5(i)(3)(A) Truck and trailer TRUs - both sides of TRU chassis housing.

2477.5(i)(4)

TRU compliance labels shall be valid for three (3) years from date of issuance.

TRUCK (SELF POWERED)

ZERO EMISSIONS

2477.5(b)(1)

Beginning December 31, 2023, no owner or owner/operator shall operate or cause to be operated in California, any truck TRU in the owner's truck TRU fleet, unless the fleet meets or exceeds the required ZE truck TRU fleet percentages specified in Table 3.

Compliance Date as of December 31	Required ZE Truck TRU Fleet Percentage
2023	15%
2024	30%
2025	45%
2026	60%
2027	75%
2028	90%
2029 and thereafter	100%

The required number of ZE truck TRUs is based on the truck TRU fleet size reported to CARB on December 31, 2023 or December 31 of each year, whichever reported truck TRU fleet size is greater.

2477.5(b)(3)

If the calculated 'number of ZE Truck TRUs' is not equal to a whole number, the owner shall round up to a whole number when the fractional part of the required number of ZE truck TRUs is equal to or greater than 0.5, and round down if less than 0.5. For example:

2477.5(b)(3)(A) A fleet consisting of one truck TRU that operates in California shall contain one ZE truck TRU by December 31, 2026.

2477.5(b)(3)(B) A fleet consisting of two truck TRUs that operate in California shall contain one ZE truck TRU by December 31, 2024 and two ZE truck TRUs by December 31, 2027.

Downsizing a Fleet

2477.5(b)(2)

A TRU owner may have a smaller "Total Truck TRU Fleet" than otherwise required for a given Compliance Date if, between January 1 and December 31, inclusive, of the prior Compliance year, the TRU owner has not purchased any additional direct-drive refrigeration units in which the compressor is powered from the truck's diesel engine, to replace the original diesel-powered units being sold or retired.

Requirements for TRU Original Equipment Manufacturers

2477.13(b)

Beginning December 31, 2023, TRU OEMs shall not manufacture for sale or use in California, a truck TRU, unless it is a ZE truck TRU.

2477.13(b)(1)

TRU OEMs shall warrant to the ultimate purchaser and each subsequent purchaser that the ZE truck TRU is free from defects in materials and workmanship which cause the failure of any warranted part.

2477.13(b)(1)(A) The warranty shall be comprehensive and cover all parts of the ZE truck TRU.

2477.13(b)(1)(B) The warranty period shall cover a period of three years from the date of purchase or 5,000 hours of compressor run time, whichever occurs first.

NOT TO BE USED AS LEGAL ADVICE.

TRAILER & DOMESTIC SHIPPING CONTAINER

ENGINE ULTRA-LOW EMISSIONS TRU (ULETRU)

2477.5(d)

PM Emission Standard for MY 2023 and Newer TRU and TRU Gen Set Engines. The term TRU as used in this subsection (d) refers only to trailer TRUs, DSC TRUs, railcar TRUs, and TRU gen sets. Truck TRUs are exempt from the requirements of this subsection (d). Beginning December 31, 2022, no owner or owner/operator shall operate or cause to be operated in California, a MY 2023 and newer TRU or TRU gen set engine, unless it meets a PM emission standard of 0.02 g/hp-hr or lower.

2477.5(c)(4)(A)

Beginning December 31, 2022, no owner or owner/operator shall operate or cause to be operated in California, a MY 2022 and older TRU or TRU gen set engine, unless it meets the in-use performance criteria set forth in section 2477.5(c) for ULETRU on or before December 31st of the seventh year past the engine's model year. For example:

2477.5(c)(4)(A)(1) No owner or owner/operator shall operate or cause to be operated in California, a MY 2020 TRU or TRU gen set engine, unless it meets ULETRU on or before December 31, 2027.

2477.13(c)

Beginning May 31, 2023, TRU OEMs shall not manufacture for sale or use in California, a trailer TRU, DSC TRU, railcar TRU, or TRU gen set, unless it is equipped with an engine that meets or outperforms the performance standard set forth in section 2477.5 (d).

WHAT IS THERMO KING DOING?

TRAILER, TRUCK AND DOMESTIC SHIPPING CONTAINERS

1. TK cut over entirely to R452A in 2022 for Trailer and Domestic Shipping Container units, and the transition is complete.
2. Truck products will be moving from R404A to R452A refrigerant by the end of 2022.
3. All products will be labeled accordingly.

TRAILER AND SHIPPING CONTAINERS

1. The Trailer S-Series unit is compliant with the regulation in question. This unit does not require any new features to meet the requirement.
2. Domestic shipping container units will be offered with compliant common rail engines as well.

TRUCK (SELF POWERED)

1. Thermo King is pleased to offer the e1000 electrified truck unit: linked [here](#).

For more information regarding the new CARB regulation, click [here](#).

NOT TO BE USED AS LEGAL ADVICE.