

UPDATED INFORMATIVE DIGEST

ADOPTION OF A REGULATION FOR SMALL CONTAINERS OF AUTOMOTIVE REFRIGERANT

Sections Affected: This action adopts new Article 4, Subarticle 5, Small Containers of Automotive Refrigerant, Title 17, California Code of Regulations sections 95360, 95361, 95362, 95363, 95364, 95365, 95366, 95367, 95368, 95369, and 95370, and the incorporated documents: “Certification Procedures for Small Containers of Automotive Refrigerant”, “Test Procedure for Leaks from Small Containers of Automotive Refrigerant” (TP-503), and “Balance Protocol for Gravimetric Determination of Sample Weights using a Precision Analytical Balance” (BP-A1).

Background: The California Global Warming Solutions Act of 2006 (Assembly Bill 32, AB 32, Núñez, Ch. 486, Stats. 2006) creates a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California. AB 32 also requires the Air Resources Board (ARB or Board) to identify a list of discrete early action greenhouse gas reduction measures and to adopt regulations to implement those measures. These discrete early action measures must be enforceable no later than January 1, 2010. Early action measures must also achieve the maximum technologically feasible and cost-effective reductions in GHGs from sources or categories of sources. One of the measures that the Board identified as a discrete early action was the reduction of GHG emissions resulting from non-professional (i.e., do-it-yourself [DIY]) recharging of motor vehicle air conditioning (MVAC) systems.

HFC-134a is a hydrofluorocarbon (HFC) that is, and has been, the predominant refrigerant used in MVAC systems manufactured since 1995. HFC-134a is not an ozone-depleting substance, but is a potent GHG that has a global warming impact 1,300 times greater than carbon dioxide (CO₂). A single 12-ounce container of this refrigerant is equivalent to 1,000 lbs of CO₂, or roughly the CO₂ emissions emitted from an automobile burning 50 gallons of gasoline. Approximately two million small containers of automotive refrigerant are sold annually in California, and an estimated 810,000 metric tons of carbon dioxide equivalent (MTCO₂E) are emitted each year as a result of DIY practices.

Currently, most small containers of automotive refrigerant are not equipped with self-sealing valves. Consequently, when a user punctures a container with a dispensing device to recharge an MVAC system, the refrigerant is either transferred into the MVAC system, released to the atmosphere, or remains in the container. The refrigerant remaining in the can, called the can heel, is eventually released to the atmosphere when the can is discarded. Staff estimates that on average 33 percent of the refrigerant is released to the atmosphere when individuals recharge their own MVAC systems.

An individual performing DIY MVAC servicing saves money by recharging his or her system with small containers of refrigerant compared to obtaining professional service for the MVAC, because small containers typically cost \$10 per container, compared to

over one-hundred dollars that professionals may charge to diagnose and recharge an MVAC. However, people who perform DIY servicing may not properly identify or repair repairable leaks because they lack the training and/or equipment possessed by MVAC technicians. Furthermore, DIY individuals may also unintentionally release more refrigerant than if the recharges were performed by trained and certified MVAC technicians at a licensed auto repair facility. Staff estimates that 1.4 million DIY recharges are performed annually in California.

ARB staff worked closely with stakeholders and developed a discrete early action measure reducing GHG emissions associated with DIY recharging of MVAC systems. The regulation establishes requirements for small containers of automotive refrigerants and the sale, use, and disposal of those containers. These new requirements will help reduce GHG emissions generated from current DIY practices.

Description of Regulatory Action: At its January 22, 2009, public hearing, the Air Resources Board (ARB or the Board) approved the adoption of the regulation along with the incorporated certification procedure, test procedure, and balance protocol. The Board also expressed a desire for the staff to continue collaborating with industry to add clarity on issues regarding timeframes for reporting, and deposit/return requirements regarding breached containers.

This discrete early action greenhouse gas (GHG) reduction measure will reduce emissions resulting from DIY recharging of MVAC systems. This regulation applies to containers holding more than 2 ounces and less than 2 pounds of refrigerant by weight and exempts automotive refrigerants with a global warming potential equal to or less than 150. This regulation utilizes a multi-pronged approach that is comprised of the following major components:

- A certification program that would require manufacturers to equip small containers of automotive refrigerant with self-sealing valves and to demonstrate compliance with a specified maximum leak rate of 3.0 grams per year. The leakage is determined by using the test procedure in conjunction with the balance protocol. Under the certification program, an application for certification of small containers of automotive refrigerant must be submitted to ARB by a manufacturer and approved by ARB in order for the manufacturer to sell its products in California. The application includes data from the testing that demonstrates compliance with the maximum leak rate specified above for the different product containers, information about the facilities where refrigerant is recovered from used containers, container label information that includes safety precautions and recharging procedures, and the information covered in a consumer education program.
- A container deposit and return program to recover and recycle the refrigerant remaining in used containers. Consumers would pay a \$10 deposit at the time of purchase, and would return a used container to the retailer within 90 days of purchase to receive a full refund of the deposit. The disposal or destruction of a container of refrigerant would be prohibited to ensure that used containers would be

returned to retailers and manufacturers. Retailers would store and transfer the used cans back to manufacturers, who would then recover and reclaim the refrigerant remaining in the containers. Manufacturers are already recovering refrigerant from dented containers using existing container-filling equipment. The regulation establishes an initial target recycle rate of 90% that increases to 95% beginning January, 2012. Staff would determine the recycle rate from manufacturer-submitted records, and the regulation would allow the Executive Officer to revise the deposit fee if the container return rate falls below or above the targeted rate.

- Container labeling and consumer education requirements to promote consumer education of proper MVAC system charging practices, and to inform consumers of the environmental consequences associated with the improper use of refrigerant, and of the container deposit and return program. These requirements would help DIY individuals reduce refrigerant losses that result from improper servicing techniques.
- Recordkeeping requirements to enable staff to determine the effectiveness of the regulation and to monitor and ensure compliance with the regulation's requirements. Manufacturers, distributors, retailers, and recyclers must annually report to ARB data on the number of containers sold and returned for recycling, and must also maintain records that allow ARB enforcement staff to verify compliance with the regulation.

After the Board hearing, the staff made some modifications to the regulation and the certification procedures in response to comments, and made such modifications available for a supplemental comment period of at least 15 days. The following modifications to this regulatory action have been suggested: (1) clarify that funds from unreturned deposits are not ultimately retained by can manufacturers, but are used to enhance the consumer education program, (2) clarify retailer and manufacturer responsibilities regarding the handling of breached containers and the refunding of deposits for breached containers, (3) allow the Executive Officer to increase or decrease the container deposit based on the return rate and information supplied by the manufacturers, (4) specify that the reporting periods required by the regulation are based on a calendar year basis, instead of from October to September, and (5) require that manufacturers describe the proposed enhanced educational program to the Executive Officer and receive approval before expending funds. In addition, ARB staff made some minor, non-substantive changes to the regulation and the certification procedures.

These and other modifications are set forth in greater detail in the 15-day notice that was made available to the public for a 15-day comment period on April 9, 2009. The Final Statement of Reasons provides the rationale for the modifications to the originally proposed regulation and the certification procedures.

Comparable Federal Regulations: Although the Federal Clean Air Act (CAA) and U.S. Environmental Protection Agency regulations generally regulate certain aspects regarding the use of non-ozone depleting refrigerants in MVAC systems, they do not currently restrict or regulate the sales or use of small containers of non-ozone-depleting automotive refrigerant. Therefore, the proposed regulation would establish more stringent requirements than comparable federal regulations.

Section 609(e) of the CAA [42 U.S.C. § 7671h(e)] and Title 40, Code of Federal Regulations (CFR) section 82.34(b) have restricted, as of November 15, 1992, the sale, distribution, or offer for sale or distribution of ozone-depleting refrigerants that are suitable for use in motor vehicle air-conditioning systems and that are in containers with less than 20 pounds of refrigerant, except to those technicians that have been trained and certified pursuant to an EPA-approved course. On March 12, 2004, the U.S. EPA decided not to extend a proposed restriction on the sale of small containers of pure HFC or PFC refrigerants to certified technicians.

Section 608(c)(2) of the CAA [42 U.S.C. § 7671g(c)(2)] has generally prohibited any person from venting or releasing any substance that is used as a substitute for an ozone-depleting refrigerant into the atmosphere since November 15, 1995. In 2004, the U.S. EPA amended its regulations regarding refrigerant recycling to clarify that the section 608(c)(2) venting ban also extends to pure HFC and perfluorocarbon (PFC) refrigerants.