ENVIRONMENTAL PROTECTION AGENCY **6560-50-P**

40 CFR Part 82

[EPA-HQ-OAR-2012-0580; FRL-9911-42-OAR]

RIN 2060-AM09

Protection of Stratospheric Ozone: Revision of the Venting Prohibition for Specific Refrigerant Substitutes

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA, the Agency) is amending the regulations promulgated as part of the National Recycling and Emission Reduction Program under section 608 of the Clean Air Act. EPA is amending those regulations to exempt certain refrigerant substitutes, listed as acceptable subject to use conditions in regulations promulgated as part of EPA's Significant New Alternative Policy program under section 612 of the Act, from the prohibition under section 608 on venting, release or disposal on the basis of current evidence that their venting, release or disposal does not pose a threat to the environment. Specifically, EPA is exempting from the venting prohibition isobutane (R–600a) and R–441A, as refrigerant substitutes in household refrigerators, freezers, and combination refrigerators and freezers, and propane (R–290), as a refrigerant substitute in retail food refrigerators and freezers (stand-alone units only).

DATES: This final rule is effective on **[insert date 30 days after date of publication in the Federal Register]**.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2012-0580. All documents in the docket are listed on the www.regulations.gov web site.

Although listed in the index, some information is not publicly available, e.g., confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy from the EPA Air and Radiation Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. This Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air and Radiation Docket is (202) 566-1742.

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SUPPLEMENTARY INFORMATION: This final action extends the exemption from the venting prohibition at 40 CFR 82.154(a)(1) to certain refrigerant substitutes in certain end-uses for which EPA has found the refrigerant substitutes acceptable subject to use conditions under CAA section 612 and the implementing regulations at 40 CFR Part 82, Subpart G. Specifically, EPA is exempting from the venting prohibition isobutane (R–600a) and R–441A as refrigerant substitutes in household refrigerators, freezers, and combination refrigerators and freezers, and propane (R–290), as a refrigerant substitute in retail food refrigerators and freezers (stand-alone units only).

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I. General information

A. Does This Action Apply to Me?

Potentially regulated entities may include, but are not limited to, the following.

Table 1 – Potentially Regulated Entities, by North American Industrial Classification System (NAICS) Code

Category	NAICS code	Description of regulated entities
Services	811412	Appliance repair and maintenance
Industry	333415	Manufacturers of refrigerators, freezers, and other refrigerating or freezing equipment, electric or other; heat pumps not elsewhere specified or included (NESOI); and parts thereof
Industry	445110	Supermarkets and other grocery (except convenience) stores
Industry	445120	Convenience stores

Industry	562920, 423930	Facilities separating and sorting recyclable materials from non-hazardous waste streams (e.g., scrap yards) and merchant wholesale distribution of industrial scrap and other recyclable materials

This table is not intended to be exhaustive, but rather provides a guide regarding entities likely to be regulated by this action. Other types of entities not listed in the table could also be affected. To determine whether your company is regulated by this action, you should carefully examine the applicability criteria contained in section 608 of the Clean Air Act (CAA, the Act) as amended, and relevant implementing regulations at 40 CFR Part 82, Subpart F. If you have any questions about whether this action applies to a particular entity, consult the person listed in the preceding section, "FOR FURTHER INFORMATION CONTACT."

B. What abbreviations and acronyms are used in this action?

ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers

CAA - Clean Air Act

CAS - Chemical Abstracts Service

CBI - confidential business information

CFC - chlorofluorocarbon

CFR - Code of Federal Regulations

EPA - United States Environmental Protection Agency

EO - Executive Order

FR - Federal Register

GWP - Global warming potential

HC – hydrocarbon

HCFC - hydrochlorofluorocarbon

HFC - hydrofluorocarbon

IPR - industrial process refrigeration

LFL- lower flammability limit

NPRM - Notice of Proposed Rulemaking

NTTAA - National Technology Transfer and Advancement Act

ODP - ozone depletion potential

ODS - ozone-depleting substance

OMB - United States Office of Management and Budget

OSHA - United States Occupational Safety and Health Administration

RCRA - Resource Conservation and Recovery Act

RFA - Regulatory Flexibility Act

SBREFA - Small Business Regulatory Enforcement Fairness Act

SNAP - Significant New Alternatives Policy

UL - Underwriters Laboratories

UMRA - Unfunded Mandates Reform Act

VOC – volatile organic compound

II. How does the national recycling and emission reduction program work?

A. What are the statutory requirements under section 608 of the Clean Air Act?

Section 608 of the Act as amended, titled *National Recycling and Emission Reduction Program,* requires EPA to establish regulations governing the use and disposal of ozone-depleting substances (ODS) used as refrigerants, such as certain chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), during the service, repair, or disposal of appliances and

industrial process refrigeration (IPR), including air-conditioning and refrigeration equipment. Section 608 also prohibits any person in the course of maintaining, servicing, repairing, or disposing of an appliance or industrial process refrigeration, from knowingly venting or otherwise knowingly releasing or disposing of such ODS used as refrigerants therein in a manner which permits such substances to enter the environment. This prohibition similarly applies to the venting, release, or disposal of substitutes for such ODS used as refrigerants, unless the Administrator determines that venting, releasing, or disposing of such a substitute does not pose a threat to the environment.

Section 608 is divided into three subsections. Briefly, section 608(a) requires EPA to promulgate regulations to reduce the use and the emissions of class I substances (e.g., CFCs and halons) and class II substances (HCFCs) to the lowest achievable level and to maximize the recapture and recycling of such substances. Section 608(b) requires that the regulations promulgated pursuant to subsection (a) contain standards and requirements for the safe disposal of class I and class II substances. Finally, section 608(c) contains self-effectuating provisions that prohibit any person from knowingly venting, releasing or disposing of any class I or class II substances, and their substitutes, used as refrigerants in appliances or IPR in a manner which permits such substances to enter the environment during maintenance, repairing, servicing, or disposal of appliances or IPR.

EPA's authority for the requirements in this action is based on section 608. As noted above, section 608(a) requires EPA to promulgate regulations regarding use and disposal of class I and II substances to ''reduce the use and emission of such substances to the lowest achievable level'' and ''maximize the recapture and recycling of such substances.'' Section 608(a) further provides that ''[s]uch regulations may include requirements to use alternative substances (including substances which are not class I or class II substances) . . . or to promote the use of

safe alternatives pursuant to section [612] or any combination of the foregoing.'' Section 608(c)(1) provides that, effective July 1, 1992, it is ''unlawful for any person, in the course of maintaining, servicing, repairing, or disposing of an appliance or industrial process refrigeration, to knowingly vent or otherwise knowingly release or dispose of any class I or class II substance used as a refrigerant in such appliance (or industrial process refrigeration) in a manner which permits such substance to enter the environment." The statute exempts from this self-effectuating prohibition ''[d]e minimis releases associated with good faith attempts to recapture and recycle or safely dispose'' of such a substance. To implement and enforce the venting prohibition[1], EPA, as codified in its regulations, interprets releases to meet the criteria for exempted ''de minimis'' releases if they occur when the recycling and recovery requirements of regulations promulgated under sections 608 and 609 are followed. 40 CFR §82.154(a)(2).

Effective November 15, 1995, section 608(c)(2) of the Act extends the prohibition in section 608(c)(1) to knowingly venting or otherwise knowingly releasing or disposing of any refrigerant substitute for class I or class II substances by any person maintaining, servicing, repairing, or disposing of appliances or IPR. This prohibition applies to any such substitute substance unless the Administrator determines that such venting, releasing, or disposing "does not pose a threat to the environment." Thus, section 608(c) provides EPA authority to promulgate regulations to interpret, implement, and enforce this venting prohibition, including authority to implement section 608(c)(2) by exempting certain substitutes for class I or class II substances from the prohibition when the Administrator determines that such venting, release, or disposal does not pose a threat to the environment.

B. What are the regulations against venting, releasing or disposing of refrigerant substitutes?

[1] In this action, EPA sometimes uses the shorthand "venting prohibition" to refer to the section 608(c) prohibition of knowingly venting, releasing, or disposing of class I or class II substances, and their substitutes.

Final regulations promulgated under section 608 of the Act, published on May 14, 1993 (58 FR 28660), established a recycling program for ozone-depleting refrigerants recovered during the servicing and maintenance of air-conditioning and refrigeration appliances. In the same 1993 final rule, EPA also promulgated regulations implementing the section 608(c) prohibition on knowingly venting, releasing or disposing of class I or class II controlled substances.[2] These regulations are intended to substantially reduce the use and emissions of ozone-depleting refrigerants.

On June 11, 1998, EPA proposed to implement and clarify the requirements of section 608(c)(2) of the Act by clarifying how the venting prohibition extends to substitutes for CFC and HCFC refrigerants (63 FR 32044). EPA issued a final rule March 12, 2004 (69 FR 11946) and a second rule on April 13, 2005 (70 FR 19273) clarifying how the venting prohibition in section 608(c) applies to refrigerant substitutes (e.g., hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) in part or whole) during the maintenance, service, repair, or disposal of appliances. These regulations implementing section 608's recycling and emission reduction program were codified at 40 CFR part 82, subpart F. Before the amendments finalized in the present action, the regulation at 40 CFR 82.154(a) stated in part that:

> "[e]ffective June 13, 2005, no person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the environment any refrigerant or substitute[3] from such appliances, with the exception of the following substitutes in the following end-uses:
>
> i. Ammonia in commercial or industrial process refrigeration or in absorption units;
>
> ii.Hydrocarbons in industrial process refrigeration (processing of hydrocarbons);

[2] A list of ozone-depleting substances is available in Appendices A and B to Subpart A of Part 82.

[3] **"**Substitute," as defined at 40 CFR part 82, subpart F, is "any chemical or product, whether existing or new, that is used by any person as an EPA approved replacement for a class I or II ozone-depleting substance in a given refrigeration or air-conditioning end-use." 40 CFR 82.152.

iii. Chlorine in industrial process refrigeration (processing of chlorine and chlorine compounds);

iv. Carbon dioxide in any application;

v. Nitrogen in any application; or

vi. Water in any application.

(2) The knowing release of a refrigerant or non-exempt substitute subsequent to its recovery from an appliance shall be considered a violation of this prohibition. De minimis releases associated with good faith attempts to recycle or recover refrigerants or non-exempt substitutes are not subject to this prohibition. . . . "

As explained in EPA's earlier rulemaking concerning refrigerant substitutes, EPA has not promulgated regulations requiring certification of refrigerant recycling/recovery equipment intended for use with substitutes to date (70 FR 19275; April 13, 2005). However, as EPA has noted, the lack of a current regulatory provision should not be considered as an exemption from the venting prohibition for substitutes that are not expressly exempted in §82.154(a). *Id.* EPA has also noted that, in accordance with section 608(c) of the Act, the regulatory prohibition at §82.154(a) reflects the statutory references to *de minimis* releases of substitutes as they pertain to good faith attempts to recapture and recycle or safely dispose of non-exempted substitutes. *Id.*

III. What factors did EPA consider in determining whether venting, release or disposal poses a threat to the environment?

Section 608(c)(2) extends the venting prohibition in section 608(c)(1) to substitutes for class I or class II substances, unless the Administrator determines that such venting, releasing, or disposing does not pose a threat to the environment.

For purposes of section 608(c)(2) of the CAA, EPA considers two factors in determining whether or not venting, release, or disposal of a refrigerant substitute during the maintenance,

service, repair or disposing of appliances poses a threat to the environment. See 69 FR 11948 (March 12, 2004). First, EPA determines whether venting, release, or disposal of the refrigerant substitute poses a threat to the environment due to inherent characteristics of the refrigerant, such as global warming potential. Second, EPA determines whether and to what extent such venting, release, or disposal actually takes place during the maintenance, servicing, repairing, or disposing of appliances, and to what extent such venting, release, or disposal is controlled by other authorities, regulations, or practices. To the extent that such releases are adequately controlled by other authorities, EPA defers to those authorities.

In addressing the two factors mentioned in the paragraph above, the analysis in the proposed rulemaking published on April 12, 2012 (78 FR 21871) discussed the potential environmental impacts and existing authorities, practices, and controls for isobutane (R–600a) and R–441A as substitutes in household refrigerators, freezers, and combination refrigerators and freezers; and propane (R–290) as a substitute in retail food refrigerators and freezers (stand-alone units only). These refrigerant substitutes and end-uses were evaluated and determined to be acceptable subject to use conditions under SNAP in the December 20, 2011 final rule (76 FR 78838) (2011 SNAP rule).

EPA received comments on the revisions to the venting prohibition proposed on April 12, 2012, seeking clarification about the applicability of the exemption to the venting prohibition to various types of equipment not mentioned in the proposal. Three comments were received asking whether the determination of an exemption to the venting prohibition for isobutane (R–600a) and R–441A as substitutes in household refrigerators, freezers, and combination refrigerators and freezers would also apply to "household wine coolers" and "household beverage centers" and "stand-alone ice makers designed for household use." This final action exempts isobutane (R–600a) and R–441A as refrigerant substitutes in household refrigerators,

freezers, and combination refrigerators and freezers. The exemption under 608(c)(2), as proposed and as it is being finalized with this action, applies only to the uses that are acceptable subject to use conditions under the 2011 SNAP rule. The issue raised by the commenters concerns how the SNAP listing is interpreted and the issue of these end uses was not raised during the comment period for the 2011 SNAP rule. Under SNAP, we have explained that "household refrigerators, freezers and combination refrigerators and freezers" includes household refrigerators, freezers, and combination refrigerator/freezers intended primarily for residential use, although they may be used outside the home. Household freezers only offer storage space at freezing temperatures, unlike household refrigerators. See 76 FR at 78833. The 2011 SNAP rule also notes that the two hydrocarbon refrigerant substitutes can be used only in refrigerators or freezers that meet all requirements listed in Supplement SA to UL 250. Id. at 78837, codified at appendix R of subpart G to 40 CFR part 82. To the extent that household wine coolers, household beverage centers or stand-alone ice makers designed for household use meet these conditions, they would fit within the end use designed in the 2011 SNAP rule as "household refrigerators, freezers and combination refrigerators and freezers."

A. Inherent characteristics of these substances

Based on the analysis in the proposal for this action (April 12, 2012, 78 FR 21871), EPA finds that the venting, release, or disposal of isobutane (R–600a) and R–441A as substitutes in household refrigerators, freezers, and combination refrigerators and freezers and propane (R–290) as a substitute in retail food refrigerators and freezers (stand-alone units only) does not pose a threat to the environment based on the inherent characteristics of these substances, as well as the limited quantities used in the relevant applications.

In the proposal (April 12, 2012, 78 FR 21871), EPA provided an analysis that focused on the environmental impacts identified as a potential concern under SNAP (76 FR 78838) for these

refrigerant substitutes: ozone depletion potential, global warming potential, volatile organic compound (VOC) effects, and ecosystem risks. As discussed in the proposal, this analysis was based in part on the fact that the volume of hydrocarbons listed as acceptable with use conditions under the 2011 SNAP rule that could be released from the specific uses relevant to this exemption would be small. Based on this analysis, EPA determines that the venting, release, or disposal of isobutane (R–600a) and R–441A as substitutes in household refrigerators, freezers, and combination refrigerators and freezers and propane (R–290) as a substitute in retail food refrigerators and freezers (stand-alone units only) does not pose a significant threat to the environment with respect to the inherent characteristics of these substances.

The discussion in the proposal also noted that in prior rulemakings EPA evaluated the potential risks of fire from the use of hydrocarbons as refrigerant substitutes in certain appliances, and engineering approaches to avoid ignition sources from within the appliance. To address flammability risks of hydrocarbon refrigerant substitutes, EPA issued recommendations for their safe use in certain end-uses and specified use conditions for some end-uses through SNAP rulemakings (59 FR 13044; 76 FR 78832).[4] These SNAP rules rely on existing regulatory requirements and industry standards and practices that protect workers, the general population, and the environment from the flammability risks from hydrocarbon refrigerant substitutes. EPA additionally provided information about potential toxicity and occupational exposure of these three hydrocarbon refrigerant substitutes, noting that in prior actions under SNAP, EPA had found that these hydrocarbons are unlikely to pose such risks, when used according to the applicable use conditions or regulations. EPA explained that the Agency believes that the flammability risks and occupational exposures to hydrocarbons are adequately regulated by

[4] Use conditions for hydrocarbons in certain refrigeration end-uses are found at 40 CFR part 82 subpart G, appendix R.

Occupational Safety and Health Administration (OSHA), building, and fire codes at a local and national level.

In support of EPA's proposed determination to exempt these hydrocarbon refrigerant substitutes from the venting prohibition in certain end uses, the proposal received comments from four commenters agreeing with EPA's cited reasons for determining that release into the environment would not pose a threat. The commenters stated that it would be safer to vent the small amounts than to try to recover them in a special container and to transport these substitutes afterwards in larger containers.

Three commenters also stated that the overall greenhouse gas impact of all the activities involved in capture, transport, recycling or destruction would generate greater greenhouse gas emissions than would simply venting the small charge of hydrocarbon refrigerant substitutes in the appliances.

One commenter supported EPA's proposed determination to exempt venting, release, or disposal of these hydrocarbon refrigerant substitutes because "there are currently no commercially available reclaim devices [sic] available in the US rated for use with hydrocarbon or other flammable refrigerants" and because the commenter is unaware of facilities equipped to accept reclaimed hydrocarbon refrigerants from a service company. EPA notes, however, that it does not believe this commenter means "reclaim devices" and "reclaimed hydrocarbon refrigerants," as the proposed rule focuses on the release of the three hydrocarbon refrigerant substitutes from appliances during the maintenance, service, repair, or disposal of appliances, and the reclamation of refrigerants is a purification process often involving a distillation column, to which refrigerant recovered from appliances is transported in bulk. We believe that the commenter means "recovery devices" and "recovered hydrocarbon refrigerants."

Another commenter provided the following information in support of EPA's proposed determination to exempt from the venting prohibition the hydrocarbon refrigerant substitutes determined to be acceptable subject to use conditions under the 2011 SNAP rule. This commenter stated that the release of the amounts of hydrocarbon (HC) refrigerant approved for residential equipment (57g) and commercial stand-alone equipment (150g) is smaller than the amount contained in many individual aerosol cans that are used every day in the United States. The total release from the 2 billion aerosol cans sold in the U.S. each year "are several orders of magnitude higher than any releases of [the proposed] refrigerant charges."

This same commenter also supports EPA's determination noting that there can be energy savings of 12 to 55 percent from a unit using HC refrigerants as compared to a unit using HFC refrigerants, with a much greater reduction in greenhouse gas emissions than the amount that might be released during maintenance, servicing or repair.

Finally, another commenter "agrees that the release of HC based refrigerants during the maintenance, service or repair would have a negligible environmental impact."

EPA received two comments that question the determination that the venting, release, or disposal of isobutane (R–600a) and R–441A as substitutes in household refrigerators, freezers, and combination refrigerators and freezers; and propane (R–290) as a substitute in retail food refrigerators and freezers (stand-alone units only) does not pose a significant threat to the environment based on the inherent characteristics of these substances. One commenter believes it is necessary to have recapture or recycling requirements for HCs, because safety risk still exists at end of life, recovery equipment designed for flammable refrigerants is available, and recovered flammable refrigerants can be re-used. EPA agrees that proper safe handling practices should be followed for hydrocarbon refrigerant substitutes, both for disposal of appliances at the end-of-life and for the repair and maintenance of appliances. EPA included recommendations on

the safe use and handling of hydrocarbons in the 2011 SNAP rule, and there are also recommendations at 40 CFR part 82, subpart G, appendix R.

The Agency supports the safe, economical and environmentally beneficial recovery, recycling and reclamation (re-use) of all hydrocarbon refrigerant substitutes. However, at this time, EPA does not agree that recovery equipment designed specifically to handle the three hydrocarbon refrigerant substitutes in this action is readily available in the United States. Further, at this time, there are not applicable standards in the U.S. for certification of recovery equipment designed to handle these three hydrocarbon refrigerant substitutes. EPA is not creating a recovery requirement at this time, as it is not clear that it would be safer, economically practical or environmentally beneficial to require the use of recovery equipment. EPA further notes that the commenter did not identify an environmental threat that is posed by the venting of these three hydrocarbon refrigerant substitutes in the end-uses for which EPA has found them acceptable subject to use conditions in the 2011 SNAP rule.

Another commenter "does not believe that there is improved safety in venting flammable hydrocarbon refrigerants versus reclaiming flammable hydrocarbon refrigerants." This commenter states "it may be more hazardous to vent flammable hydrocarbon refrigerants or flammable hydrocarbon refrigerant/lubricant mixture into an uncontrolled environment." This commenter states that because of the very low minimum ignition energy (MIE) of hydrocarbon flammable refrigerants (class 3 flammable under ASHRAE 2010), these refrigerants are easily ignited by static electricity. EPA believes this concern about the ignition of hydrocarbon refrigerants for these three hydrocarbon refrigerant substitutes in the end uses at issue in this action was addressed in the 2011 SNAP rule in which these hydrocarbon refrigerant substitutes and end-uses were evaluated and determined to be acceptable subject to use conditions under SNAP. In section "B. Flammability" of part IV of that SNAP rule, titled "What is the basis for

EPA's final action?" the Agency describes the evaluation and conclusion for approving these hydrocarbon refrigerant substitutes for the specific end-uses under the use conditions. The 2011 SNAP rule explains that, "when the concentration of a flammable refrigerant reaches or exceeds its [lower flammability limit] LFL in the presence of an ignition source (*e.g.,* a static electricity spark resulting from closing a door, use of a torch during servicing, or a short circuit in wiring that controls the motor of a compressor), an explosion or fire could occur." 76 FR at 78837. The 2011 SNAP rule continues by stating that, "To determine whether the three hydrocarbon refrigerants would present flammability concerns for service and manufacture personnel or for consumers, EPA reviewed the submitters' detailed assessments of the probability of events that might create a fire, as well as engineering approaches to avoid sparking from the refrigeration equipment. EPA also conducted risk screens, available in the docket for this rulemaking, evaluating reasonable worst-case scenarios to model the effects of the sudden release of the refrigerants. The worst-case scenario analysis for each of the three hydrocarbons revealed that even if the unit's full charge were emitted within one minute, the concentration would not reach the [lower flammability limits] LFL for that hydrocarbon." Id. at 78839.

The commenter also noted studies that "show atomized lubricant (lubricant that is released within refrigerant spray, such as under venting conditions), is more flammable than liquid lubricant." EPA considered such studies and the influence of the lubricant on the lower flammability limits (LFLs) of the hydrocarbon refrigerants in the specific end-uses when finding them acceptable subject to use conditions under the SNAP program (see December 20, 2011; 76 FR 78832, sections "D. Charge Size Limitation (Household Refrigeration)" and "E. Charge Size Limitation (Retail Food Refrigeration)" and discussions of standards UL 250 and UL 471 regarding lubricant oil). In this rule, EPA determines that the three hydrocarbon refrigerant substitutes do not pose a significant threat to the environment when released from the relevant

end uses under the use conditions established in 2011 SNAP rule, taking into account this same information about the atomized lubricant that was discussed regarding the solubility of oil in establishing the acceptable use condition of each charge size limit in the 2011 SNAP rule. Id. at 78845-78846.

The commenter raised concerns that "venting hydrocarbon refrigerant may potentially carry lubricants dissolved with the refrigerant…into the atmosphere." The commenter believes that an exemption for venting, release, or disposal of the three hydrocarbon refrigerant substitutes sends an incorrect message to the market on best practices, and that this message is counter to "responsible use and handling." While EPA understands this perspective and agrees that product stewardship is an important overall goal, the very small amount of dissolved lubricant in the small hydrocarbon charge size established as a limit for each of the end-use categories in the 2011 SNAP rule will significantly mitigate the release into the environment and the impact of any release into the environment of lubricants dissolved in the hydrocarbon refrigerant substitutes that may result from any venting, release or disposal that may occur under this final action. EPA also notes that many of the lubricants used with hydrocarbon refrigerants, such as alkyl benzene and polyalkylene glycol, are considered environmentally acceptable because they biodegrade easily as noted in EPA's document on environmentally acceptable lubricants[5]. After considering these two comments questioning EPA's determination in this action, as well as the comments supporting that determination, we believe that the venting, release, or disposal of these three hydrocarbon refrigerant substitutes would not pose a significant threat to the environment based on the inherent characteristics of these substances, in light of the amounts that could be released under this action.

[5] U.S. EPA (2011), "Environmentally Acceptable Lubricants," United States Environmental Protection Agency, Office of Wastewater Management, November 2011, EPA 800-R-11-002

B. Limits and controls under other authorities, regulations or practices

In the proposal (78 FR 21871), EPA explained that the limits and controls under other authorities, regulations or practices adequately control the release of and exposure to the three hydrocarbon refrigerant substitutes and mitigate risks from any possible release in the end-uses specified in the 2011 SNAP rule. This conclusion is relevant to the second factor mentioned above in the overall determination of whether venting, release, or disposal of a refrigerant substitute poses a threat to the environment—that is, a consideration of the extent that such venting, release, or disposal is adequately controlled by other authorities, regulations, or practices. As such, this conclusion is another part of the determination that the venting, release or disposal of these three hydrocarbon refrigerant substitutes in the specified end uses under the 2011 SNAP rule does not pose a threat to the environment.

EPA notes that other applicable environmental regulatory requirements still apply and are not affected by the determination made in this action. As one example, state and local air quality agencies may include VOC emissions reductions strategies in state implementation plans developed to meet and maintain the National Ambient Air Quality Standard (NAAQS) that would apply to hydrocarbon refrigerant substitutes. For instance, for those refrigerant substitutes that are VOCs as defined in 40 CFR 50.100(s), a State might adopt additional control strategies if necessary for an ozone nonattainment area to attain the NAAQS for ozone.

Several commenters supported the determination that the release of the hydrocarbon refrigerant substitutes determined to be acceptable subject to use conditions in specified end uses under the 2011 SNAP rule does not pose a threat to the environment because of limits under other authorities, such as OSHA requirements, as well as national and local building and fire codes. These commenters believe the three hydrocarbon refrigerant substitutes in today's action should be exempt from the venting prohibition because there are sufficient limits and controls

under other authorities, regulations or practices that adequately control the release and exposure in the specific end-uses.

One commenter requested an explanation of how "knowingly venting propane … would not be disposal of a hazardous waste (see 40 CFR 261.21)." The commenter is correct that propane refrigerant could technically be characterized as a hazardous waste under 40 CFR 261.21 specifying the characteristic of ignitability. However, this rule would only allow for incidental releases of propane (R-290) found acceptable subject to use conditions under the 2011 SNAP rule for use in retail food refrigerators and freezers (stand-alone units only). These releases would not be subject to RCRA requirements for the disposal of hazardous waste as the release would occur incidentally during the maintenance, service and repair of the equipment, and this would not constitute disposal of the refrigerant charge as a solid waste, per se. The Agency further notes that it discussed potential human health risks from the release of propane in this end use in the 2011 SNAP rule, and it provided information from that rule in the proposal for this rule. See 76 FR at 78839 and 78 FR at 21874-75. In the 2011 SNAP rule, the Agency considered the risk of asphyxiation to workers (store employees and consumers), and evaluated a worst-case scenario and determined that the charge size at issue was much smaller than the charge size that would result in the no observable adverse effect level (NOAEL) for hypoxia. 76 FR at 78839. The Agency also evaluated toxicity impacts from the propane end use to workers, consumers, and the general public, and found that propane in this end use did not pose a toxicity threat based on either occupational exposures, as the time-weighted average exposures were well below the industry and government exposure limits, or on consumer exposures, as the time-weighted average exposures were significantly lower than the NOAEL and/or the acute exposure guideline level (AEGL). Id. Further, for the 2011 SNAP Rule EPA modeled exposure risk to the general population for propane in this end use and concluded that it was unlikely to pose a

toxicity risk to the general population when used according to the applicable use conditions or regulations because modeled exposures were significantly lower than the reference concentration. Id. In addition, in this action the Agency is determining that these releases do not pose a threat to the environment, as described elsewhere in this preamble.

EPA received several comments that support the determination that, in the words of one of the commenters, "release of HC based refrigerants during the maintenance, service or repair would have a negligible environmental impact" in part, because of limits and controls under other regulations and practices, such as OSHA requirements and building and fire codes. However, one commenter noted that "requiring capture continues the best practice currently being used and does not create another process dissimilar to the current requirements for CFCs, HCFCs and HFCs and blends." This commenter noted that, "there are technologies which would facilitate [recovery of HCs] … passive 'draw through' processes such as activated carbon adsorption capture [as] … one example. The process is simple and can be used with the current equipment the service and repair industry typically has available." EPA understands that this process could be used, although there is no applicable standard in the U.S. for how it would be implemented and it would create an additional risk with the management of the activated carbon that has adsorbed the hydrocarbon refrigerant substitute due to the aggregation of a larger quantity of a material containing a flammable substance. EPA also notes, as did other commenters, that the energy for implementing any recapture process from the appliances and transporting it, and reclaiming or disposing of the hydrocarbon refrigerant substitute, especially a process using activated carbon adsorption capture or other similar "draw through" substance that would then be sent for final disposal, recovery or recycling of the material, would likely generate greater greenhouse gas emissions than simply venting the very small charges of the three hydrocarbon refrigerant substitutes from the specified end-use appliances.

One commenter suggested that**,** "disposal of units containing HC charges is vastly different than maintenance, service or repair." This commenter went on to say that "HC refrigerants should be recovered by Certified Technicians prior to disposal to protect the recyling industry and eliminate confusion to technicians and other personnel who are not required to obtain EPA Certification to handle refrigerants." The Agency notes that certification of a technician is not required for recovery of refrigerant during disposal of small appliances (see 40 CFR 82.156(a)), such as the household refrigerators, freezers and refrigerator/freezer combinations addressed in this rule. At this time, the regulatory requirements for technician certification at 40 CFR 82.156(a) are limited to recovery of ODS and ODS blends. However, EPA believes employees at disposal facilities are very often certified technicians or aware of EPA requirements regarding recovery of the refrigerants from equipment during disposal. While a technician certification is not required in order to use the exemption from the venting prohibition in today's action, EPA encourages disposal facilities to ensure that employees are familiar with how to safely handle and vent the three hydrocarbon refrigerant substitutes in the specified end uses addressed by today's rule. In addition, the commenter provides no reason to believe that there is any potential environmental threat from venting during disposal that would differ from any potential environmental threat from venting during maintenance, service or repair. In fact, today's action could reduce the number of appliances that are disposed of while still charged with these three hydrocarbon refrigerant substitutes because it will no longer be prohibited to vent those refrigerant substitutes in the specified end uses during maintenance, service, and repair. Thus, EPA does not believe that it needs to address disposal separately in the regulations finalized in this action.

As a suggestion for protecting workers in the appliance recycling industry the commenter proposed that "units using flammable refrigerants be marked in a manner that an end of life

processing or recycling facility can easily identify the hazard from a distance of 36 inches while looking at the back of the unit." With respect to the comment regarding risks to workers during the disposal of equipment at end-of-life, EPA agrees that flammability is a reason for caution during disposal of appliances containing hydrocarbon refrigerant substitutes. EPA notes that some of the use conditions in the 2011 SNAP rule were required in order to address this potential risk. For example, the labeling requirements and the requirement for coloring of tubing will serve as notification to servicing and disposal personnel that the appliance contains a flammable refrigerant substitute. The labeling requirements in the 2011 SNAP final rule require an increased lettering size as compared to the UL standards effective when that final rule was issued (UL 2000, UL 2010) for the cautionary statement about flammability that must be attached to the appliance to provide even better notification to those involved in appliance recycling.

For the reasons explained in this action and in the proposal (78 FR 21871), EPA concludes that release of and exposure to the three hydrocarbon refrigerants during the maintenance, repair, servicing or disposal of appliances is controlled by limits and controls under other authorities, regulations or practices. EPA further concludes that those limits and controls help mitigate risks to the environment that may be posed by the venting, release or disposal of these three hydrocarbon refrigerants during the maintaining, servicing, repairing, or disposing of appliances.

IV. What is EPA's determination whether venting, release or disposal poses a threat to the environment?

Today EPA is finalizing a decision to exempt from the venting prohibition three hydrocarbon refrigerant substitutes that EPA listed as acceptable subject to use conditions in the specified end uses under the 2011 SNAP rule, as the EPA is determining that the venting, release, or disposal of these substitutes does not pose a threat to the environment. Specifically,

EPA is exempting from the venting prohibition isobutane (R–600a) and R–441A, as refrigerant substitutes in household refrigerators, freezers, and combination refrigerators and freezers, and propane (R–290), as a refrigerant substitute in retail food refrigerators and freezers (stand-alone units only). EPA received seven comments supporting this decision. EPA addressed in this action commenters' concerns regarding the release of the three hydrocarbon refrigerant substitutes into the environment. The exemption to the venting prohibition in this action does not apply to refrigerants that are blends containing hydrocarbons and any amount of any CFC, HCFC, HFC[6], or PFC.

EPA reviewed the potential environmental impacts of these three hydrocarbon refrigerant substitutes in the end uses for which they are listed as acceptable subject to use conditions under the 2011 SNAP rule, as well as the authorities, controls and practices in place for these three hydrocarbon refrigerant substitutes. EPA also considered the public comments on the proposal for this action. Based on this review, EPA concludes that the release of these three hydrocarbon refrigerant substitutes in these end uses is not expected to pose a significant threat to the environment based on the inherent characteristics of these substances and the limited quantities used in the relevant applications. EPA additionally concludes that existing authorities, controls, and practices help mitigate environmental risk from the release of these three hydrocarbon refrigerant substitutes in these end uses. In light of these two conclusions, EPA is determining, in accordance with 608(c)(2), that based on current evidence and risk analyses, the venting, release or disposal of these hydrocarbon refrigerant substitutes during the maintenance, servicing, repairing or disposing of the relevant appliances does not pose a threat to the environment. EPA is therefore extending the regulatory exemption from the venting prohibition at 40 CFR

[6] Hydrofluorocarbons (HFCs) also include Hydrofluoroolefins (HFOs), which have at least one double bond between carbon atoms.

§82.154(a)(1) to include these three hydrocarbons in the specific end uses that were found acceptable subject to use conditions under the 2011 SNAP rule.

V. What revision to the venting prohibition is EPA finalizing today?

This rule exempts from the prohibition under section 608 of the Act against knowing venting, releasing, or disposal of refrigerant substitutes during the maintenance, servicing, repair or disposal of appliances the three hydrocarbon refrigerant substitutes in the end uses for which they were listed as acceptable subject to use conditions under the 2011 SNAP rule: propane, isobutane, and the hydrocarbon blend R-441A.

In this action the regulatory text is presented differently from what appeared in the proposed rulemaking published on April 12, 2012 (78 FR 21871). These differences reflect modifications that EPA is making in this action to the numbering and organization of the regulations at 40 CFR 82.154(a)(1) to clarify the effective dates for the exemptions under 82.154(a)(1). In particular, EPA is creating sub-sections under 82.154(a)(1), to reflect the effective dates of individual regulatory actions. The first sub-section, 82.154(a)(1)(i), will preserve the effective date of June 13, 2005, reflecting the Agency's prior action to create an exemption to the venting prohibition. This action will be in the next sub-section, 82.154(a)(1)(ii), reflecting the Agency's decision regarding the three hydrocarbon refrigerant substitutes for the specific end-uses listed as acceptable subject to use conditions under the 2011 SNAP rule. These revisions to the numbering and organization of the regulatory text do not change the text of the regulatory provisions that were previously codified at 82.154(a)(1) and are not intended to reopen or to change the substance or effect of those regulations in any way, although the text of those provisions is reprinted for clarity.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a "significant regulatory action" under the terms of Executive Order (E.O.) 12866 (58 FR 5135; October 4, 1993) and is therefore not subject to review under E.O. 12866 and E.O. 13563 (76 FR 3821; January 21, 2011).

B. Paperwork Reduction Act

This action does not impose any new information collection burden under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.)*. This action is an Agency determination and revision of existing regulatory provisions. It contains no new requirements for collecting information or reporting. The Office of Management and Budget (OMB) has previously approved the information collection requirements contained in the existing regulations in subpart F of 40 CFR 82 under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. and has assigned OMB control number 2060-0256. The OMB control numbers for EPA's regulations are listed in 40 CFR 9.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) a small business that is primarily engaged in the repair and maintenance of

appliances and defined by NAIC code 811412 with annual receipts of less than 14 million dollars, or engaged in separating and sorting recyclable materials from non-hazardous waste streams (e.g., scrap yards) and defined by NAIC code 562920 and fewer than 100 employees, or merchant wholesale distribution of industrial scrap and other recyclable materials and defined by NAIC code 423930 with annual receipts of less than 12.5 million dollars (based on Small Business Administration size standards), (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant adverse economic impact on small entities, since the primary purpose of the regulatory flexibility analyses is to identify and address regulatory alternatives "which minimize any significant economic impact of the rule on small entities." 5 USC 603 and 604. Thus, an agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect on all of the small entities subject to the rule.

This final rule is primarily deregulatory as it would exempt persons from the prohibition under section 608(c)(2) of the Clean Air Act, and as implemented by regulations at 40 C.F.R. § 82.154(a)(1), against knowingly venting or otherwise knowingly releasing or disposing of refrigerant substitutes during the maintenance, servicing, repair or disposal of appliances for three specific hydrocarbon refrigerant substitutes in specific end uses. We have therefore

concluded that today's final rule will relieve regulatory burden for all affected small entities.

D. Unfunded Mandates Reform Act

This action contains no Federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531-1538 for State, local, or tribal governments or the private sector. The action imposes no enforceable duty on any State, local or tribal governments or the private sector. Thus, this action is not subject to the requirements of sections 202 or 205 of the UMRA. This action is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This action is deregulatory in nature and creates an exemption under section 608(c)(2) of the Act from a statutory and regulatory requirement.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in EO 13132 (64 FR 43255, August 10, 1999). This action is deregulatory in nature and creates an exemption under section 608(c)(2) of the Act from a statutory and regulatory requirement, which would benefit any state, local, or tribal government to the extent that they are affected. Thus, EO 13132 does not apply to this final rule.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicited comment on the proposed action from State and local officials.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications, as specified in EO 13175 (65 FR 67249,

November 6, 2000). This final rule is deregulatory in nature and would create an exemption under section 608(c)(2) of the Act that could be available for the tribal communities or Indian tribal governments. Thus, EO 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

This action is not subject to the EO 13045 (62 FR 19885, April 23, 1997) because it is not economically significant as defined in Executive Order 12866, and because the Agency does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in section III in the preamble.

H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law No. 104-113, Section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This rule does not involve technical standards. Therefore, EPA did not consider the use of

any voluntary consensus standards.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629; February 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this final rule exempting under section 608(c)(2) of the Act certain hydrocarbons from the venting prohibition in certain end uses listed as acceptable subject to use conditions will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because the release of these three hydrocarbon refrigerant substitutes would not pose a threat to the environment. This final action would not have any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A Major rule cannot take effect until 60 days after

it is published in the Federal Register. This action is not a "major rule" as defined by 5 U.S.C. 804(2). This rule will be effective **[insert 30 days after date of publication in the Federal Register]**.

VII. References

The documents referenced in the final rule in which the three hydrocarbon refrigerant substitutes in specific end-uses were evaluated and determined to be acceptable subject to use conditions under SNAP in the December 20, 2011 final rule (76 FR 78832), were also referenced in the preamble of the proposed rule published on April 12, 2012 (78 FR 21871). All documents for these two previously published rules are located in the Air Docket at the address listed in section titled "ADDRESSES" at the beginning of this document. Unless specified otherwise, all documents are available in Docket ID No. EPA-HQ-OAR-2012-0580 at http://www.regulations.gov. Listed below are only new documents not previously cited in that previously published rule and previously published proposal that were referenced in this action.

EPA, 2011, "Environmentally Acceptable Lubricants," United States Environmental Protection Agency, Office of Wastewater Management, November 2011, EPA 800-R-11-002

List of Subjects in 40 CFR Part 82

Environmental protection, Administrative practice and procedure, Air pollution control, Recycling, Reporting and recordkeeping requirements, Stratospheric ozone layer.

Dated: May 15, 2014.

Gina McCarthy,
Administrator.

For the reasons set out in the preamble, 40 CFR Part 82 is to be amended as follows:

PART 82 - PROTECTION OF STRATOSPHERIC OZONE

1. The authority citation for Part 82 continues to read as follows:

Authority: 42 U.S.C. 7414, 7601, 7671 – 7671g.

2. Section 82.154 is amended by revising paragraph (a)(1) to read as follows:

§82.154 Prohibitions.

(a)(1) No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the environment any refrigerant or substitute from such appliances, with the exception of the following substitutes in the following end-uses:

(i) Effective June 13, 2005,

(A) Ammonia in commercial or industrial process refrigeration or in absorption units;

(B) Hydrocarbons in industrial process refrigeration (processing of hydrocarbons);

(C) Chlorine in industrial process refrigeration (processing of chlorine and chlorine compounds);

(D) Carbon dioxide in any application;

(E) Nitrogen in any application; or

(F) Water in any application.

(ii) Effective **[INSERT DATE 30 days after publication of final rule in the Federal Register]**:

(A) Isobutane (R–600a) and R–441A in household refrigerators, freezers, and combination refrigerators and freezers; or

(B) Propane (R–290) in retail food refrigerators and freezers (stand-alone units only).

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[FR Doc. 2014-12028 Filed 05/22/2014 at 8:45 am; Publication Date: 05/23/2014]