ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 82
[FRL–6237–5]
RIN: 2060–AG12

Protection of Stratospheric Ozone; Listing of Substitutes for Ozone-Depleting Substances

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: This action prohibits certain substitutes for ozone-depleting substances (ODSs) under the U.S. Environmental Protection Agency’s (EPA) Significant New Alternatives Policy (SNAP) program. SNAP implements section 612 of the amended Clean Air Act of 1990, which requires EPA to evaluate substitutes for the ODSs to reduce overall risk to human health and the environment. Through these evaluations, SNAP generates lists of acceptable and unacceptable substitutes for each of the major industrial use sectors. The intended effect of the SNAP program is to expedite movement away from ozone-depleting compounds while avoiding a shift into substitutes posing other environmental problems.

On March 18, 1994, EPA promulgated a final rulemaking setting forth its plan for administering the SNAP program, and issued decisions on the acceptability and unacceptability of a number of substitutes. In this final rule, EPA is issuing its decisions on the acceptability of certain substitutes not previously reviewed by the Agency. Specifically, this action lists as unacceptable the use of two gases as refrigerants in “self-chilling cans” because of unacceptably high greenhouse gas emissions which would result from the direct release of the cans’ refrigerants to the atmosphere.

EFFECTIVE DATE: April 2, 1999. A public hearing will be held if requested in writing. If a public hearing is requested, EPA will provide notice of the date, time and location of the hearing in a subsequent Federal Register notice. For further information, please contact Kelly Davis at the address listed below under “For Further Information.”

ADDRESSES: Written comments and data are available in Docket A–91–42, U.S. Environmental Protection Agency, OAR Docket and Information Center, 401 M Street, S.W., Room M–1500, Mail Code 6102, Washington, D.C. 20460. The docket may be inspected between 8 a.m. and 5:30 p.m. on weekdays. Telephone (202) 260–7548; fax (202) 260–4400. As provided in 40 CFR part 2, a reasonable fee may be charged for photocopying.

FOR FURTHER INFORMATION CONTACT: Kelly Davis at (202) 564–2303 or fax (202) 565–2096, Analysis and Review Branch, Stratospheric Protection Division, Mail Code 6205J, Washington, D.C. 20460. Overnight or courier deliveries should be sent to our 501 3rd Street, NW, Washington, DC 20001 location.

SUPPLEMENTARY INFORMATION: This action is divided into four sections:

I. Section 612 Program
   A. Statutory Requirements
   B. Regulatory History
   II. Listing of Substitutes—Refrigeration and Air-Conditioning
   III. Administrative Requirements
   IV. Additional Information

I. Section 612 Program

Section 612 of the Clean Air Act authorizes EPA to develop a program for evaluating alternatives to ozone-depleting substances. EPA is referring to this program as the Significant New Alternatives Policy (SNAP) program. The major provisions of section 612 are:

• Rulemaking—Section 612(c) requires EPA to promulgate rules making it unlawful to replace any class I (chlorofluorocarbon, halon, carbon tetrachloride, methyl chlorofluorocarbon, methyl bromide, and hydrobromofluorocarbon) or class II (hydrochlorofluorocarbon) substance with any substitute that the Administrator determines may present adverse effects to human health or the environment where the Administrator has identified an alternative that (1) reduces the overall risk to human health and the environment, and (2) is currently or potentially available.
• Listing of Unacceptable/Acceptable Substitutes—Section 612(c) also requires EPA to publish a list of the substitutes unacceptable for specific uses. EPA must publish a corresponding list of acceptable alternatives for specific uses.
• Petition Process—Section 612(d) grants the right to any person to petition EPA to add a substitute to or delete a substitute from the lists published in accordance with section 612(c). The Agency has 90 days to act on any petition and QB
• 90-day Notification—Section 612(e) requires EPA to notify any person who produces a chemical, product substitute, or alternative manufacturing process, whether existing or new, that could replace a class I or class II substance. Anyone who produces a substitute must provide the Agency with health and safety studies on the substitute at least 90 days before introducing it into interstate commerce for significant new uses as substitutes for a class I substance. The producer must also provide the Agency with the producer’s health and safety studies on such substitutes.

A. Statutory Requirements

On March 18, 1994, EPA published the Final Rulemaking (59 FR 13044) which described the process for administering the SNAP program and issued EPA’s first acceptability lists for substitutes in the major industrial use sectors. These sectors include: refrigeration and air conditioning; foam blowing; solvent cleaning; fire suppression and explosion protection; sterilants; aerosols; adhesives, coatings and inks; and tobacco expansion. These sectors comprise the principal industrial sectors that historically consume large volumes of ozone-depleting compounds.

The Agency defines a “substitute” as any chemical, product substitute, or alternative manufacturing process, whether existing or new, that could replace a class I or class II substance. Anyone who produces a substitute must provide the Agency with health and safety studies on the substitute at least 90 days before introducing it into interstate commerce for significant new uses as substitutes for a class I substance. The producer must also provide the Agency with the producer’s health and safety studies on such substitutes.

A. Statutory Requirements

II. Listing of Substitutes—Refrigeration and Air-Conditioning

To develop the lists of unacceptable and acceptable substitutes, EPA conducts screens of health and environmental risks posed by various substitutes for ozone-depleting compounds in each use sector. The outcome of these screens can be found in the public docket, as described above in the ADDRESSES portion of this document.

Under section 612, the Agency has considerable discretion in the risk
management decisions it can make in SNAP. The Agency has identified five possible decision categories: acceptable; acceptable subject to use conditions; acceptable subject to narrowed use limits; unacceptable; and pending. Fully acceptable substitutes, i.e., those with no restrictions, can be used for all applications within the relevant sector end-use. Conversely, it is illegal to replace an ODS with a substitute listed by SNAP as unacceptable. A pending listing represents substitutes for which the Agency has not received complete data or has not completed its review of the data.

After reviewing a substitute, the Agency may make a determination that a substitute is acceptable only if certain conditions of use are met to minimize risks to human health and the environment. Such substitutes are placed on the acceptable subject to use conditions list. Use of such substitutes in ways that are inconsistent with such use conditions renders these substitutes unacceptable.

Even though the Agency can restrict the use of a substitute based on the potential for adverse effects, it may be necessary to permit a narrowed range of use within a sector end-use because of the lack of alternatives for specialized applications. Users intending to adopt a substitute acceptable with narrowed use limits must ascertain that other acceptable alternatives are not technologically feasible. Companies must document the results of their evaluation, and retain the results on file for the purpose of demonstrating compliance. This documentation shall include descriptions of substitutes examined and rejected, processes or products in which the substitute is needed, reason for rejection of other alternatives, e.g., performance, technical or safety standards, and the anticipated date other substitutes will be available and projected time for switching to other available substitutes. Use of such substitutes in applications and end-uses which are not specified as acceptable in the narrowed use limit renders these substitutes unacceptable.

In this final rule, EPA is issuing its decision on the acceptability of certain substitutes not previously reviewed by the Agency. Specifically, this final rule lists as unacceptable the use of two gases—HFC-134a and HFC-152a—as refrigerants in self-chilling cans because of unacceptably high greenhouse gas emissions that would result from the direct release of the cans’ refrigerants to the atmosphere. Today’s rule incorporates the final rule proposed on May 21, 1997, at 62 FR 27873 and on February 3, 1998, at 63 FR 5491. As described in the final rule for the SNAP program (59 FR 13044), EPA believes that notice-and-comment rulemaking as a general matter is required to place any alternative on the list of prohibited substitutes, to list a substitute as acceptable only under certain use conditions or narrowed use limits, or to remove an alternative from either the list of prohibited or acceptable substitutes.

EPA does not believe that rulemaking procedures are required to list alternatives as acceptable with no limitations. Such listings do not impose any sanction, nor do they remove any prior license to use a substitute. Consequently, EPA adds substitutes to the list of acceptable alternatives without first requesting comment on new listings. Updates to the acceptable and pending lists are published as separate Notices of Acceptability in the Federal Register.

Part A below presents a detailed discussion of the substitute listing determinations by major use sector. Tables summarizing listing decisions in this Federal Register are in appendix G. The comments contained in appendix G to subpart G of 40 CFR part 82, provide additional information on a substitute. Since these comments are not part of the regulatory decision, they are not mandatory for use of a substitute. Nor should the comments be considered comprehensive with respect to other legal obligations pertaining to the use of the substitute. However, EPA encourages users of acceptable substitutes to apply all comments in their application of these substitutes. In many instances, the comments simply allude to sound operating practices that have already been identified in existing industry and/or building-code standards. Thus, many of the comments, if adopted, would not require significant changes in existing operating practices for the affected industry.

Refrigeration and Air-Conditioning

1. Listing Decisions

Self-chilling Cans Using HFC-134a or HFC-152a. Self-chilling cans using HFC-134a or HFC-152a are unacceptable substitutes for CFC-12, R-502, and HCFC-22 in the following end-uses: household refrigerator, transport refrigeration, vending machines, cold storage warehouses, and retail food refrigeration, Retrofit and New. This technology represents a product substitute intended to replace several types of refrigeration equipment. A self-chilling can includes a heat transfer unit that performs the same function as one half of the traditional vapor-compression refrigeration cycle. The unit contains a charge of pressurized refrigerant that is released to the atmosphere when the user activates the cooling unit. As the refrigerant’s pressure drops to atmospheric pressure, it absorbs heat from the can’s contents and evaporates, cooling the can. Because this process provides the same cooling effect as household refrigeration, transport refrigeration, vending machines, cold storage warehouses, or retail food refrigeration, it is a substitute for CFC-12, R-502, or HCFC-22 in these systems.

HCFCs have played a major role in the phaseout of CFC refrigerants, and EPA expects this responsible use to continue. HFC-134a is an acceptable substitute for ozone-depleting refrigerants in a wide variety of refrigeration systems. In addition, both HFC-134a and HFC-152a are components in refrigerant blends that are themselves acceptable substitutes. These refrigeration systems, however, are closed, meaning that refrigerant recirculates, and there are EPA regulations requiring their recovery and reuse. The only source of refrigerant emissions from these systems is leaks, and EPA regulations require the repair of large leaks from these non-emissive systems. In contrast, however, self-chilling cans are by definition emissive, i.e., releasing refrigerant is integral to their function.

In assessing the risks of proposed substitutes under the SNAP program, EPA considers all environmental impacts that a substitute may produce. HFC-134a and HFC-152a have no ozone depletion potential, are low in toxicity, and are not volatile organic compounds. HFC-152a is mildly flammable, but the primary area of concern for both HFC-134a and HFC-152a is their potential to contribute to increased greenhouse gas emissions.

The proposal to this final rule described an assessment made by EPA of the possible contribution of self-chilling can technology to U.S. emissions of global warming gases when HFC-134a and HFC-152a are used. The proposed rule also describes an analysis of the effect of replacing systems with new equipment using new refrigerants in the end-uses listed above with self-chilling cans. As the analysis demonstrates, because the total U.S. market for beer and soft drinks is significant, even a small market penetration could substantially increase U.S. emissions of greenhouse gases. One scenario, a 5% market penetration of cans using HFC-134a, resulted in greenhouse gas emissions of 96 million metric tons of carbon equivalent (MMTCE), which would be 25% higher...
than the 76 MMTCE of total expected reductions in greenhouse gas emissions currently estimated in the year 2000 under President Clinton’s 1993 Climate Change Action Plan (CCAP). At 30% market penetration of cans using HFC-134a, emissions would be 575 MMTCE, more than total CO₂ emissions from all U.S. electric utilities’ burning of fossil fuels. Interested parties can find more information about this analysis in the February 3, 1998 proposal to this final rule (63 FR 5491). For all of these reasons, EPA is listing self-chilling cans using HFC-134a or HFC-152a as unacceptable substitutes for CFC-12, R-502, or HCFC-22 in the end-uses listed above.

2. Response to Comments

Commenters identified three issues, discussed in turn:

- EPA does not have legislative authority to use concerns about high greenhouse gas emissions as a basis for the decision to list unacceptable the use of HFC-134a and HFC-152a as refrigerants in self-chilling cans;
- EPA did not sufficiently consider differences between the global warming potentials of HFC-134a and HFC-152a, and a decision to list as unacceptable the use of HFC-152a as refrigerants in self-chilling cans may deter the use of HFC-152a in other unrelated applications; and
- The use of HFC-134a and HFC-152a in self-chilling cans may not be regulated under EPA’s SNAP program because EPA never made a finding that self-chilling cans have used class I or II refrigerants.

a. EPA’s Authority under Title VI of the Clean Air Act. Both commenters stated that EPA does not have authority to use concerns about high greenhouse gas emissions as a basis for the decision to list unacceptable the use of HFC-134a and HFC-152a as refrigerants in self-chilling cans. In taking action on self-chilling cans, EPA is carrying out its responsibility under Title VI of the 1990 Clean Air Act, as part of the phaseout of chemicals that deplete the stratospheric ozone layer, to review the health and the environmental effects of replacement chemicals and products.

Section 612(c) prohibits the introduction of any replacement that may present adverse effects to human health or the environment if EPA concludes there is an alternative available that “reduces overall risk to human health and the environment.” The Agency has included climate change among the environmental risks it considers in implementing section 612 since the inception of the SNAP program. The original SNAP rule promulgated in March, 1994 (59 FR 13044) included “atmospheric effects and related health and environmental impacts” as criteria for evaluating substitutes. Public comment on the original SNAP rule failed to identify any definition of overall risk that warranted excluding these effects.

b. Differences between HFC-134a and HFC-152a global warming potentials. The text of the preamble in the proposed rule distinguished between non-emissive uses of class I and II substitutes, such as in retail food refrigeration, and emissive uses, such as in self-chilling cans and aerosol propellants. One commenter stated that the preamble to the proposed rule should have further distinguished within the discussion of emissive uses between the use of HFC-134a and the use of HFC-152a, since HFC-134a has a global warming potential of 1300, and HFC-152a has a global warming potential of 140. The commenter expressed concern that a failure to make any distinction between these gases will deter the use of HFC-152a in emissive uses other than self-chilling cans, such as in personal care products.

In the course of evaluating class I and II substitutes under SNAP, the Agency does not consider the relative criteria of substitutes as they are used in different industrial sectors, or in different end-uses within a single sector. Instead, SNAP evaluation of a potential alternative involves comparing it with the original ODS it is substituting for in that end-use, and with other alternatives that are available in that end-use. Today’s decision has no bearing on the acceptability under SNAP of HFC-152a as a substitute under any other refrigeration and air-conditioning end-use or within any other industrial sector.

The commenter also stated that the impact of HFC-152a as a global warmer may not be sufficient to warrant direct regulation under SNAP. EPA disagrees; Section 612(c) of the Clean Air Act mandates that EPA shall make it unlawful to replace any class I or II substance with a substitute that EPA determines may present adverse effects to human health or the environment, if another alternative(s) to such replacement has been identified that: (a) reduces overall risk to human health and the environment or process, but also of product substitutes, process changes and alternative technologies such as the use of evaporative and absorption chillers in refrigeration and air conditioning, and the use of no-clean fluxes in electronics manufacturing processes that currently use class I or II compounds as cleaning and drying solvents.

As stated in the response to comments in the original March 18, 1994 SNAP rule, “EPA believes it appropriate to consider substitute processes and products for review under the
SNAP program, since many of these alternatives are viable substitutes and could reduce overall risks to human health and the environment. EPA believes that such alternative products and processes, therefore, fall within the definition of substitutes under section 612 of the Mandates Reform Act of 1995.

Similarly, new production techniques and/or processing equipment are important developments that can minimize environmental risk. Accordingly, alternative manufacturing processes are also examined under section 612 in the context of use and emissions of substitues. EPA believes that section 612’s reference to “alternative,” instead of “alternative substance,” or “alternative chemical,” implies a statutory intent that “alternative” be read broadly. This reading of the statutory intent furthers the Congressional mandate to shift use to alternatives that reduce overall risk.

III. Administrative Requirements
A. Executive Order 12866

Under Executive Order 12866, (58 FR 51735; October 4, 1993) the Agency must determine whether the regulatory action is “significant” and therefore subject to OMB review and the requirements of the Executive Order. The Order defines “significant regulatory action” as one that is likely to result in a rule that may: (1) have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, State, local, or tribal governments or the private sector of less than $100 million in any one year, the Agency has not prepared a budgetary impact statement or specifically addressed the selection of the least costly, most cost-effective, or least burdensome alternative that achieves the rule’s objectives, unless there is an explanation why this alternative is not selected or this alternative is inconsistent with law.

Because this final rule is estimated to result in the expenditure by State, local, and tribal governments, in aggregate, or by the private sector, of $100 million or more in any one year. Section 203 requires the Agency to establish a plan for obtaining input from and informing any small governments that may be significantly or uniquely affected by the rule. Section 205 requires that regulatory alternatives be considered before promulgating a rule for which a budgetary impact statement is prepared. The Agency must select the least costly, most cost-effective, or least burdensome alternative that achieves the rule’s objectives, unless there is an explanation why this alternative is not selected or this alternative is inconsistent with law.

E. Submission to Congress and the Comptroller General

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. This rule is not a “major rule” as defined by 5 U.S.C. 804(2). This rule will be effective April 2, 1999.

F. Applicability of E.O. 13045: Children’s Health Protection

This final rule is not subject to E.O. 13045, entitled Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997), because it does not involve decisions on environmental health risks or safety risks that may disproportionately affect children.

G. Executive Order 12875: Enhancing the Intergovernmental Partnership

Under Executive Order 12875, EPA may not issue a regulation that is not required by statute and that creates a mandate upon a State, local or tribal government, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by those governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 12875 requires EPA to provide to the Office of Management and Budget a description of the extent of EPA’s prior consultation with representatives of affected State, local and tribal governments, the nature of their concerns, copies of any written communications from the governments, and a statement supporting the need to issue the regulation. In addition, Executive Order 12875 requires EPA to develop an effective process permitting elected officials and other representatives of State, local and tribal governments “to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates.”

Today’s rule does not create a mandate on State, local or tribal governments. The rule does not impose any enforceable duties on these entities. Accordingly, the requirements of
section 1(a) of Executive Order 12875 do not apply to this rule.

H. National Technology Transfer and Advancement Act

The National Technology Transfer and Advancement Act of 1995 (NTTAA), section 12(d), Public Law 104–113, requires federal agencies and departments to use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments. If use of such technical standards is inconsistent with applicable law or otherwise impractical, a federal agency or department may elect to use technical standards that are not developed or adopted by voluntary consensus standards bodies if the head of the agency or department transmits to the Office of Management and Budget an explanation of the reasons for using such standards.

This final rule does not mandate the use of any technical standards; accordingly, the NTTAA does not apply to this rule.

I. Executive Order 13084: Consultation and Coordination With Indian Tribal Governments

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 13084 requires EPA to provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA’s prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments “to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.”

IV. Additional Information

For copies of the comprehensive SNAP lists or additional information on SNAP, contact the Stratospheric Protection Hotline at 1–800–296–1996, Monday–Friday, between the hours of 10:00 a.m. and 4:00 p.m. (EST).

For more information on the Agency’s process for administering the SNAP program or criteria for evaluation of substitutes, refer to the SNAP final rulemaking published in the Federal Register on March 18, 1994 (59 FR 13044). Notices and rulemakings under the SNAP program, as well as EPA publications on protection of atmospheric ozone, are available from EPA’s Ozone World Wide Web site at “http://www.epa.gov/ozone/title6” and from the Stratospheric Protection Hotline number as listed above.

List of Subjects in 40 CFR Part 82

Environmental protection, Administrative practice and procedure, Air pollution control, Reporting and recordkeeping requirements.

Dated: February 25, 1999

Carol M. Browner, Administrator.

For the reasons set out in the preamble, 40 CFR part 82 is 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. Sec. 7414, 7601, 7671–7671q.

2. Subpart G is amended by adding the following Appendix G to read as follows:

Subpart G—Significant New Alternatives Policy Program

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REFRIGERANTS UNACCEPTABLE SUBSTITUTES

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<thead>
<tr>
<th>End-use</th>
<th>Substitute</th>
<th>Decision</th>
<th>Comments</th>
</tr>
</thead>
</table>

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