

coding information, altering the VOC content of a coating or component batch, or altering the results of any required tests to determine VOC content.

§ 59.110 Incorporations by Reference.

(a) The following material is incorporated by reference in the paragraphs noted in § 59.104. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any changes in these materials will be published in the **Federal Register**.

(1) ASTM D 1613-96, Standard Test Method for Acidity in Volatile Solvents

and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products, IBR approved for § 59.104(d).

(2) ASTM D 523-89, Standard Test Method for Specular Gloss, IBR approved for § 59.104(e).

(b) The materials are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC; the Air and Radiation Docket and Information Center, U.S. EPA, 401 M Street, SW, Washington, DC; and at the EPA Library (MD-35), U.S. EPA, Research Triangle Park, North Carolina. The materials are available for purchase from the following address: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA,

19428, telephone number (610) 832-9500.

§ 59.111 Availability of information and confidentiality.

(a) Availability of information. The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.

(b) Confidentiality. All confidential business information entitled to protection under section 114(c) of the Act that must be submitted or maintained by each regulated entity pursuant to this section shall be treated in accordance with 40 CFR part 2, subpart B.

TABLE 1 TO SUBPART B.—VOLATILE ORGANIC COMPOUND (VOC) CONTENT LIMITS FOR AUTOMOBILE REFINISH COATINGS

Coating category	Grams VOC per liter	Pounds VOC per gallon ^a
Pretreatment wash primers	780	6.5
Primers/primer surfacers	580	4.8
Primer sealers	550	4.6
Single/two-stage topcoats	600	5.0
Topcoats of more than two stages	630	5.2
Multi-colored topcoats	680	5.7
Specialty coatings	840	7.0

^a English units are provided for information only. Compliance will be determined based on the VOC content limit, as expressed in metric units.

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 9 and 59

[AD-FRL-6149-8]

RIN 2060-AF62

National Volatile Organic Compound Emission Standards for Consumer Products

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action promulgates national volatile organic compound (VOC) emission standards for certain categories of consumer products pursuant to section 183(e) of the Clean Air Act (Act). This final rule is based on the Administrator's determination that VOC emissions from the use of consumer products can cause or contribute to ozone levels that violate the national ambient air quality standards (NAAQS) for ozone. Ozone is a major component of smog which causes negative health and

environmental impacts when present in high concentrations at ground level. The final rule is estimated to reduce VOC emissions by 90,000 tons per year (tpy) by requiring manufacturers, importers, and distributors to limit the VOC content of consumer products. The EPA developed these requirements in consultation with major stakeholders and these requirements are similar to existing standards in certain States. To date, many companies have taken steps to reformulate their products to emit less VOC.

EFFECTIVE DATE: The effective date is September 11, 1998. The incorporation by reference of certain publications listed in the regulation is approved by the Director of the Federal Register as of September 11, 1998.

ADDRESSES: *Background Information Document.* The background information document (BID) for the promulgated consumer product standards (referred to as the "CP-BID") may be obtained from the docket for this rulemaking and is also available for downloading from the Technology Transfer Network (TTN) at "http://www.epa.gov/ttn/oarpg/remain.html," or from the United States Environmental Protection Agency Library (MD-35), Research Triangle Park, North Carolina 27711, telephone

(919) 541-2777. Please refer to "National Volatile Organic Compound Emission Standards for Consumer Products—Background for Promulgated Standards" (EPA Document Number 453/R-98-008B). The CP-BID contains a summary of the changes made to the standards since proposal, a summary of all the public comments made on the standards, and EPA's responses to the comments.

Docket. Docket No. A-95-40, containing supporting information used in developing the promulgated standards, is available for public inspection and copying from 8:00 a.m. to 5:30 p.m. Monday through Friday, at the EPA's Air and Radiation Docket and Information Center, Waterside Mall, Room M-1500, Ground Floor, 401 M Street, SW, Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Mr. Bruce Moore at (919) 541-5460, Coatings and Consumer Products Group, Emission Standards Division (MD-13), United States Environmental Protection Agency, Research Triangle Park, North Carolina 27711 (moore.bruce@epa.gov).

SUPPLEMENTARY INFORMATION:

Regulated Entities. Regulated categories and entities include:

Category	Examples of regulated entities
Industry	Manufacturers, distributors, or importers of consumer products that are listed in tables 1-3 and that are manufactured for sale or distribution in the United States, including all United States territories.
Federal government	Not affected.
State/local/tribal government	Not affected.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that the EPA is now aware could potentially be regulated by this action. To determine whether you are regulated by this action, you should carefully examine the applicability criteria in Section 59.201 of the final rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Judicial review. The EPA proposed this section 183(e) rule for consumer products on April 2, 1996 (61 FR 14531). This notice promulgating a rule for consumer products constitutes final administrative action concerning that proposal. Under section 307(b)(1) of the Act, judicial review of this final rule is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by November 10, 1998. Under section 307(d)(7)(B) of the Act, only an objection to this rule which was raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the Act, the requirements established by today's final action may not be challenged separately in any civil or criminal proceeding brought by the EPA to enforce these requirements.

Technology Transfer Network. The TTN is one of the EPA's technical web sites. The TTN provides information and technology exchange in various areas of air pollution control, including copies of this rule and supporting documents. The TTN is free and is accessible through the Internet at "http://www.epa.gov/ttn/oarpg/ramain.html" For more information on the TTN, call the HELP line at (919) 541-5384.

Outline. The following outline is provided to aid in reading this preamble to the final rule.

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I. Purpose and Summary of the Standards

A. Purpose of Regulation

1. Ground-level Ozone

Ground-level ozone, which is a major component of "smog," is formed in the atmosphere by reactions of VOC and oxides of nitrogen (NO_x) in the presence of sunlight. The formation of ground-level ozone is a complex process that is affected by many variables.

Exposure to ground-level ozone is associated with a wide variety of human health effects, agricultural crop loss, and damage to forests and ecosystems. Acute health effects are induced by short-term exposures to ozone (observed at concentrations as low as 0.12 parts per million (ppm)), generally while individuals are engaged in moderate or heavy exertion, and by prolonged exposures to ozone (observed at

concentrations as low as 0.08 ppm), typically while individuals are engaged in moderate exertion. Moderate exertion levels are more frequently experienced by individuals than heavy exertion levels. The acute health effects include transient pulmonary function responses, transient respiratory symptoms, effects on exercise performance, increased sensitivity of airways to irritants, increased susceptibility to respiratory infection, increased hospital admissions and emergency room visits, and transient pulmonary inflammation. Groups at increased risk of experiencing such effects include active children, outdoor workers, and others who regularly engage in outdoor activities and individuals with preexisting respiratory disease.

2. Consumer Products Regulation

Emissions of VOC from the use of consumer products are not currently regulated at the Federal level. However, eight States (California, Connecticut, Massachusetts, New Jersey, New York, Oregon, Rhode Island, and Texas) are currently enforcing VOC standards for various categories of consumer products. All of these State rules address at least some of the products covered by this rule. Representatives of the consumer products industry have expressed concern that differences in State and local requirements for consumer products could disrupt the national distribution network for consumer products. They have, therefore, urged the EPA to issue rules for consumer products to encourage consistency across the country. Many States with ozone pollution problems are also supportive of an EPA rulemaking that will assist them in their efforts toward achievement of ozone attainment. At least 13 States have included anticipated reductions from the Federal consumer products rule as part of their State implementation plans to reduce their State's overall VOC emissions.

In response to these concerns, the EPA listed for regulation the 24 categories of household consumer products addressed by this rule. The standards establish VOC content limits for these 24 categories of consumer products. The existence of a national rule is not meant to imply that it would

be inappropriate for States to develop more stringent levels of controls, or maintain more stringent controls already in place, where necessary, to attain the ozone standard. Instead, the national standard is expected to reduce the number of States needing to develop new, separate rules for these categories.

3. Background on Section 183(e)

Section 183(e) of the Act mandates a new regulatory program for controlling VOC emissions. Through this provision, Congress required the EPA to conduct a study of emissions of VOC into the ambient air from consumer and commercial products and to list for regulation, based on the study, categories of products that have the potential to contribute to ozone nonattainment.

In accordance with section 183(e) of the Act, the Administrator has determined that VOC emissions from the use of consumer products have the potential to contribute to ozone levels that violate the NAAQS for ozone. The EPA and many States consider the regulation of consumer products to be an important component of the overall approach to reducing those emissions that contribute to nonattainment. The

EPA's determination that VOC emissions from the use of consumer products have the potential to contribute to nonattainment of the ozone NAAQS and the decision to regulate consumer products were discussed in the preamble to the proposed rule (61 FR 32729), in the Report to Congress on Consumer and Commercial Products (Docket No. A-95-40, Item No., II-A-1), and in the **Federal Register** notice announcing the schedule for regulation (60 FR 15264).

A separate document in today's **Federal Register** contains the final notice that lists consumer products for regulation under section 183(e). The document describes section 183(e) of the Act and provides a summary of public comments and the EPA responses regarding the Report to Congress and the list and schedule for regulation.

B. Summary of the Standards

The final rule applies to manufacturers, importers, and distributors of subject consumer products manufactured for sale or distribution in the United States, including the District of Columbia and all United States territories. The

regulated entity in each case is the manufacturer, distributor, or importer named on the label of the regulated consumer product. If the product is manufactured by a company not named on the label of the product, the manufacturer of the product is also a regulated entity for purposes of compliance with the VOC content or emission limits. The VOC content limits for all product categories except charcoal lighter material are presented in tables 1 and 2, and the VOC emission limit for charcoal lighter material is presented in table 3 of this preamble. The VOC content limits presented in tables 1 and 2 and the VOC emission limit presented in table 3 must be achieved by December 10, 1998 for all products that are not registered under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136-136y) (FIFRA). Because of the time needed for registration of new or reformulated products under FIFRA, the compliance date for FIFRA-regulated products is 1 year later than that for non-FIFRA-regulated products. Accordingly, for those consumer products that are subject to FIFRA, the VOC content limits must be achieved by December 10, 1999.

TABLE 1 OF SUBPART C.—PRODUCT CATEGORY TABLE OF STANDARDS: VOC CONTENT LIMITS

Product category	VOC content limit (weight-percent VOC)
Air fresheners:	
Single-phase	70
Double-phase	30
Liquids/pump sprays	18
Solids/gels	3
Automotive windshield washer fluid	35
Bathroom and tile cleaners:	
Aerosols	7
All other forms	5
Carburetor and choke cleaners	75
Cooking sprays—aerosol	18
Dusting aids:	
Aerosols	35
All other forms	7
Engine degreasers	75
Fabric protectants	75
Floor polishes/waxes:	
Products for flexible flooring materials	7
Products for nonresilient flooring	10
Wood floor wax	90
Furniture maintenance products—aerosol	25
General purpose cleaners	10
Glass cleaners:	
Aerosols	12
All other forms	8
Hairsprays	80
Hair mousses	16
Hair styling gels	6
Household adhesives:	
Aerosols	75
Contact	80
Construction and panel	40
General purpose	10
Structural waterproof	15

TABLE 1 OF SUBPART C.—PRODUCT CATEGORY TABLE OF STANDARDS: VOC CONTENT LIMITS—Continued

Product category	VOC content limit (weight-percent VOC)
Insecticides:	
Crawling bug	40
Flea and tick	25
Flying bug	35
Foggers	45
Lawn and Garden	20
Laundry prewash:	
Aerosols/solids	22
All other forms	5
Laundry starch products	5
Nail polish removers	85
Oven cleaners:	
Aerosols/pump sprays	8
Liquids	5
Shaving creams	5

TABLE 2 OF SUBPART C.—UNDERARM ANTIPERSPIRANT AND UNDERARM DEODORANT TABLE OF STANDARDS: HVOC^a CONTENT LIMITS

Product category	Percent HVOC content limit (weight-percent HVOC)
Underarm antiperspirants—aerosol	60
Underarm deodorants—aerosol	20

^a High-volatility organic compound (HVOC) are VOC with vapor pressure greater than 80 millimeters of mercury at 20 °C.

TABLE 3 OF SUBPART C.—CHARCOAL LIGHTER MATERIAL TABLE OF STANDARDS: VOC EMISSION LIMIT

Product category	VOC emission limit (grams (g)/start)
Charcoal Lighter Material	9

Charcoal lighter material manufactured after December 10, 1998 may not emit greater than 9 grams of VOC per start, as determined using procedures specified in the regulation. Regulated entities for subject charcoal lighter material must label their products with information specifying the quantity of charcoal lighter material per pound of charcoal that was used in the testing protocol for that product.

These compliance periods are consistent with those presented in the proposed rule. The EPA believes that these intervals will provide adequate time for the vast majority of regulated entities to achieve compliance. The EPA included a variance provision in this rule (see section 59.206) that may provide temporary relief for regulated entities, especially small businesses, who cannot achieve compliance because of extraordinary circumstances beyond reasonable control.

To identify consumer products that are subject to the rule, each regulated entity of a subject consumer product must display on each consumer product

container or package, the day, month, and year on which the product was manufactured, or a code indicating such date.

The following consumer products are exempt from the rule:

- (1) Any consumer product manufactured solely for shipment and use outside of the United States.
- (2) Insecticides and air fresheners containing at least 98-percent paradichlorobenzene or at least 98-percent naphthalene.
- (3) Adhesives sold in containers of 0.03 liter (1 ounce) or less.
- (4) Bait station insecticides. For the purpose of this rule, bait station insecticides are containers enclosing an insecticidal bait that does not weigh more than 14 grams, where bait is designed to be ingested by insects and is composed of solid material feeding stimulants with less than 5 percent by weight active ingredients.
- (5) Air fresheners whose VOC constituents are 100-percent fragrance materials.

(6) Non-aerosol moth proofing products that are principally for the protection of fabric from damage by moths and other fabric pests in adult, juvenile, or larval forms.

(7) Flooring seam sealers used to join or fill the seam between two adjoining pieces of flexible sheet flooring.

The final rule also includes an innovative product provision which allows a regulated entity to market a product with VOC content that exceeds the limit in the rule under certain circumstances. The regulated entity must provide supporting documentation that demonstrates that the use of the product will result in VOC emissions equal to or less than a complying consumer product due to some characteristic of the product formulation, design, delivery system, or other factor.

The final rule also allows a regulated entity to apply for a temporary variance if, due to extraordinary circumstances beyond reasonable control, the regulated entity cannot comply with the VOC content limit requirements by the

specified compliance date. The final rule specifies the criteria that must be met before the Administrator will grant a variance.

The rule does not require the submission of routine reports. However, a regulated entity must provide evidence of compliance with the rule whenever requested by the Administrator. Compliance with the VOC content limits in tables 1 and 2 must be calculated from records of the weight-percent of constituents used to make each batch of the product. Compliance with the VOC emission limit for lighter material in table 3 is based on procedures specified in section 59.208 of the rule, or an alternate method approved by the Administrator.

Regulated entities must keep records of the design formulation for each consumer product subject to the rule (except for charcoal lighter materials), unless the manufacturer has submitted to the EPA a written certification that the manufacturer will maintain the records for the regulated entity. For each batch of production, a regulated entity must maintain for 3 years accurate records of the weight-percent and chemical composition of the individual product constituents. Regulated entities of subject charcoal lighter materials must keep records for 3 years of the results of tests performed according to section 59.208 of the final rule.

The final rule requires that each regulated entity of any subject consumer product submit a one-time Initial Notification Report to the EPA containing the following information: (1) company name; (2) name, title, phone number, address, and signature of certifying company official; (3) a list of product categories and subcategories subject to sections 59.203 and 59.204, as found in tables 1 and 2, for which the company is currently the regulated entity; (4) description of date coding systems, clearly explaining how the date of manufacture is marked on each sales unit of subject consumer products and (5) name and location of the designated recordkeeping agent, if any. If a date code is revised, an updated description must be submitted within 30 days following the change. The Initial Notification Report must be submitted to the appropriate EPA Regional Office no later than December 10, 1998 or 30 days after becoming a regulated entity. Addresses for the EPA Regional Offices are provided in section 59.210.

II. Summary of Considerations in Developing the Rule

A. Technical Basis of Regulation

Regulations under section 183(e) of the Act must reflect the EPA's determination of best available controls (BAC) for the category of product. As defined in section 183(e)(1) of the Act, BAC is

* * * the degree of emission reduction that the Administrator determines, on the basis of technological and economic feasibility, health, environmental, and energy impacts, is achievable through the application of the most effective equipment, measures, processes, methods, systems, or techniques, including chemical reformulation, product or feedstock substitution, repackaging, and directions for use, consumption, storage, or disposal.

As discussed in the preamble to the proposed rule (61 FR 14531, April 2, 1996), the EPA has determined that BAC for 23 of the consumer product categories covered by this rule consists of imposing specific VOC content limits, expressed as the weight-percent VOC, for each consumer product category. For charcoal lighter fluid, VOC limits are best expressed as the amount of VOC emitted during use as determined by the test method presented in section 59.208 of the rule. Section 183(e) of the Act allows the EPA to consider a wide range of strategies to achieve emission reductions through BAC. Section 183(e) provides that the determination must be based upon technological and economic feasibility, and upon health, environmental, and energy impacts. The EPA has determined that, in most cases, all or most of a product's VOC content is emitted during product use. Therefore, the EPA concluded that limits on the amount of VOC incorporated into the products would be the most feasible and least disruptive control measure. Additionally, in working to comply with State VOC rules over the past several years, the consumer products industry has established product reformulation as the most technologically and economically feasible strategy for reducing VOC emissions. The standards thus reflect the degree of emission reduction that the EPA determines to be BAC. The EPA selected the VOC limits based primarily on the EPA's consumer products survey, analysis of existing State rules for consumer products, and information gathered during the EPA's study of the consumer and commercial products industry.

B. Stakeholder and Public Participation

Consumer product regulation development. The consumer product

standards were proposed and the preamble was published in the **Federal Register** on April 2, 1996 (61 FR 14531). The EPA solicited public comments at the time of proposal, and made available copies of the regulatory text, Technical Support Document, and Economic Impact Analysis for interested parties.

To provide interested parties the opportunity for oral presentation of data, views, or arguments concerning the proposed consumer product standards, the EPA held a public hearing in Research Triangle Park, North Carolina on May 17, 1996. Thirteen speakers presented oral testimony at this hearing. The public comment period was open from April 2, 1996 to June 17, 1996. In all, the EPA received 67 comment letters on the consumer products rule. Commenters included industry representatives, States, trade associations, and others. The comments have been carefully considered, and changes have been made to the proposed standards when determined by the Administrator to be appropriate. Significant comments are discussed in section IV of this preamble. A detailed discussion of all public comments and the EPA's responses can be found in the CP-BID, referenced in the **ADDRESSES** section of this preamble.

Development of list and schedule for regulation. The EPA submitted the Report to Congress, including the required criteria for regulation, on March 23, 1995. A summary of the six-volume report (EPA-453/R-94-066-a through f) was published at 60 FR 15264, along with a list of product categories and the schedule for regulating them. The EPA accepted public comments for submittal to the docket after this publication. However, the EPA considered the list and schedule as an interim step to regulation rather than final EPA action. Therefore, the EPA requested submission of public comments on the section 183(e) regulatory list and schedule at the time the EPA proposes to regulate a particular category of product. Since publication of the list and schedule for regulation, the EPA has proposed regulations for three product categories: architectural coatings (61 FR 32729), automobile refinishing coatings (61 FR 19005), and consumer products (61 FR 4531). Commenters submitted a total of 85 comment letters on the section 183(e) study and Report to Congress and the list and schedule for regulation. In addition, a total of 12 speakers testified on the list and schedule for regulation at the three individual public hearings held for these rules. The listing notice for consumer products, which can be found elsewhere in today's **Federal**

Register, contains a detailed discussion of all these public comments and the EPA's responses.

III. Summary of Impacts

A. Volatile Organic Compound Reductions

The standards imposed by these regulations will reduce nationwide emissions of VOC from consumer products by 82,000 megagrams per year (Mg/yr) (90,000 tpy) relative to emissions in 1990. This reduction represents a 20 percent reduction from the 1990 baseline.

B. Secondary Air, Water, and Solid Waste Impacts

The EPA anticipates no adverse secondary air, water, or solid waste impacts from compliance with these standards. In general, the standards will lead to product reformulation to reduce the amount of VOC released into the ambient air. While some additional water is likely to be added to formulations, this increase is not expected to result in additional waste water discharges to the environment.

The regulations do not impact existing product inventories. Products manufactured before the compliance dates discussed in section I.B. are not affected. Excluding existing product inventories from the regulations will eliminate any incremental solid waste increase due to discarded unsold products. The new products are not expected to require any more packaging than existing products; thus, the volume of discarded packaging should not increase.

C. Energy Impacts

The EPA anticipates no increase in energy usage as a result of this rule. The standards do not require the use of control devices that utilize energy to reduce the amount of VOC emitted to the air. The EPA is also not aware of any incremental energy use increase expected from the production of new formulations of consumer products.

D. Economic Impact Analysis

By establishing a set of product-specific standards for VOC content, the rule has cost implications for producers of the affected products. Manufacturers of consumer products that do not meet the VOC levels in the rule will be required to reformulate such products if they wish to continue marketing these products. Each option imposes costs, some of which will be passed on to other members of society (consumers) in the form of higher prices, and some of which will be borne directly by manufacturers.

The cost of reformulation includes the resources that must be devoted to creating a compliant product, e.g., research and development expenditures plus any net changes in the variable cost of producing the new product. Variable costs may be affected by changes in the material composition of the new product. The cost for each noncompliant product depends on the level of effort required to develop a new product and how these expenditures are incurred over time. Reformulation cost data were provided by industry to the EPA for prototype reformulations in the consumer product categories.

Under a worst-case scenario, implementation of these standards would result in national annualized costs of \$26 million per year (presented in 1991 dollars). This estimate includes the annualized one-time costs of product reformulation assuming all products exceeding the VOC standards will be reformulated. Recordkeeping and reporting costs have been estimated to be approximately \$960,000 per year. Therefore, the total annualized costs are approximately \$27 million. There are no monitoring requirements for this rule. No significant capital expenditures are expected. The EPA has determined, and the consumer products industry has concurred, that a significant proportion of subject products have been reformulated in response to State regulations and in anticipation of this final rule. Data are not available to quantify the proportion of the one-time reformulation costs that have already been incurred. To the extent that reformulations have already taken place since 1990, this cost estimate will overstate the true costs of this regulation. Also, products produced in small volumes are likely to be withdrawn from the market rather than incur the fixed costs of reformulation. This also leads to a lower national cost.

The collective effect of some products being removed from the market and other products bearing higher costs of production will likely lead to changes in market prices and quantities. The estimated market effects are generally quite small. Price effects in each market range from no effect to an approximated 3-percent price increase. Market-level price effects are expected to be typically less than one-tenth of 1 percent. Similarly, the reduction in production is projected to be small, ranging from virtually no effect to a 1.7-percent reduction. The reduction in production will typically be less than one-tenth of one percent.

Giving consideration to producers' choices for the least costly compliance option (i.e., reformulation or product

withdrawal) and adjustments that will occur in the market, the estimated social cost of the regulation (including reformulation costs or lost profits from product withdrawals) is approximately \$21 million per year (estimated in 1991 dollars), with an estimated range from \$17 million to \$23 million by varying some key assumptions. This range of total social cost falls below 1 percent of baseline revenue for the affected industry sectors.

IV. Significant Comments and Changes to the Proposed Rule

The EPA received a total of 67 comment letters during the public comment period following proposal of the consumer products rule. In addition, 13 speakers presented testimony at a public hearing held in Research Triangle Park, North Carolina, on May 17, 1996. The more significant comments on the consumer products rule are discussed in this section of the preamble. A complete summary of comments on the consumer products rule and the EPA's full responses are presented in the CP-BID, as referenced in the ADDRESSES section of this preamble.

In response to public comments on the proposed standards, the EPA has made several changes to the final rule. While most of the changes are clarifications designed to make the EPA's intent clearer, the EPA did make minor changes to the proposed requirements based upon comments received.

A. Changes to the Proposed Rule

The EPA has made certain changes to the final rule regarding definitions, variances, recordkeeping, and reporting requirements, and administrative provisions as detailed below.

1. Definitions of Regulated Entity, Manufacturer, and Person

The proposed rule specified that the standards would "apply to manufacturers, processors, wholesale distributors, or importers of consumer products." A "manufacturer" was defined as any person who imports, manufactures, processes, or distributes a consumer product. A "distributor" was defined as any person to whom a consumer product is sold or supplied for the purposes of resale or distribution in commerce.

Several commenters indicated that the rule could be interpreted as applying too broadly to entities that are not responsible for development or formulation of a product. Clarification of the definition of regulated entity was also requested by several commenters

concerned about unclear responsibility for recordkeeping and reporting.

The EPA has revised the definition of "regulated entity" and "manufacturer" in order to clarify its intent. Since "regulated entity" is defined under section 59.201, it has been deleted from section 59.202 to avoid redundancy. Under section 59.201(b), "regulated entity" is now defined as follows:

The regulated entity is (1) the manufacturer or importer of the product and (2) any distributor that is named on the product label. The manufacturer or importer of the product is a regulated entity for purposes of compliance with the VOC content or emission limits in section 59.203, regardless of whether the manufacturer or importer is named on the label or not.

The distributor, if named on the label, is the regulated entity for purposes of compliance with all sections of the rule, except for section 59.203. Distributors whose names do not appear on the label are not regulated entities. If no distributor is named on the label, then the manufacturer or importer is responsible for compliance with all sections of the rule.

In order to avoid having a processor or contract filler be solely accountable for products manufactured to a customer's specifications, the definition of "manufacturer" in section 59.202 was revised as follows:

Manufacturer means any person who manufactures or processes a consumer product. Manufacturers include: (1) processors who blend and mix consumer products; (2) contract fillers who develop formulas and package these formulas under a distributor's label; (3) contract fillers who manufacture products using formulas provided by a distributor; and (4) distributors who specify formulas to be used by contract fillers or processors.

The intent of these revisions is to clarify that, under conditions where distributors have no direct control over the product VOC content (either through manufacturing or processing the product themselves, or by specifying a particular formulation to be used), distributors named on the label are subject to all the provisions of subpart C *except* the VOC content or emission limits in section 59.203. However, distributors (whether or not named on the label) who specify that a particular formulation be used would be considered "manufacturers" and would, therefore, be subject to the VOC content or emission limits.

In order to clarify what is meant by the term "person," EPA has revised section 59.202 to include a definition of "person" as follows:

Person means an individual, corporation, partnership, association, State, any agency, department, or instrumentality of the United

States, and any officer, agent, or employee thereof.

2. Definition of United States

Following publication of the proposed rule, several inquiries were received regarding applicability of the regulation to areas outside the 50 States. The EPA's intent is for the regulation to apply in the 50 States, the District of Columbia, and United States territories. Consequently, in order to clarify this intent, the EPA has added a definition of United States.

3. Variances

Section 59.206 of the proposed rule required that a public hearing be held for each variance application. In order to streamline the process, the EPA has changed the rule to provide that a hearing is not mandatory. Notice of each variance application received will be published in the **Federal Register**, and a hearing will be held only if requested by the public.

Regulated entities may request a variance for a number of reasons. For example, some manufacturers may need additional time for research and development of a reformulated product that will comply with the VOC limits in the rule. In some cases, manufacturers may need time to perform product testing and to obtain approval from other government agencies in order to reformulate certain products to comply with the rule. In other cases, manufacturers may require additional time to complete the registration process for reformulated pesticide products.

While some variances may be sought in order to delay initial compliance with the rule for a variety of reasons, there may be occasions in the future when regulated entities may not be able to comply for some finite period of time. For example, a particular ingredient essential to the formulation of a compliant product might be temporarily unavailable due to reasons beyond the control of the regulated entity. In that case, the manufacturer may need to substitute an ingredient that would cause the product to exceed the VOC content or emission standard for that product category. In such a case, the manufacturer could seek a variance to allow continued marketing of the product during the period of time that the proper feedstock is unavailable.

4. Recordkeeping and Reporting Requirements

The proposed rule stated that the recordkeeping and reporting requirements applied to each manufacturer or importer subject to provisions of § 59.203(a). Commenters

questioned who exactly was required to meet the recordkeeping and reporting requirements, (i.e., the manufacturer, the importer, or the distributor). Some manufacturers mentioned that they had distributors who would be unable to meet the recordkeeping and reporting requirements because they did not have access to the manufacturer's product formulation data. Manufacturers, distributors, and retailers expressed concern about trade secrets and proprietary formulations being revealed to other commercial businesses in order to achieve compliance. Because of such concerns, several commenters requested that the regulated entity be allowed to delegate the responsibility for maintaining records.

It was the EPA's intent that the regulated entity (the party with ultimate control over the VOC content of the product) also be responsible for the recordkeeping and reporting requirements. In response to concerns raised about trade secrets and proprietary information, the recordkeeping and reporting requirements of section 59.209(a) were revised to indicate that the manufacturer may provide written certification to the EPA accepting responsibility for the recordkeeping requirements on behalf of the regulated entity.

Failure to maintain the required records may result in enforcement action by the EPA against the certifying manufacturer in accordance with the enforcement provisions applicable to violations of these provisions by regulated entities. The certifying manufacturer may revoke the written certification by sending a written statement to the EPA and the regulated entity giving at least 90 days notice that the certifying manufacturer is rescinding acceptance of responsibility for compliance with the recordkeeping requirements listed in this paragraph. Upon expiration of the notice period, the regulated entity must assume responsibility for maintaining the records specified in this paragraph. Written certifications and revocation statements to the EPA from the certifying manufacturer shall be signed by the responsible official of the certifying manufacturer, provide the name and address of the certifying manufacturer, and be sent to the appropriate EPA Regional Office at the address listed in Section 59.210. Such written certifications are not transferable by the manufacturer.

The EPA has made other changes to simplify the recordkeeping and reporting requirements. Some commenters asserted that since the

Initial Notification Report contains the location where VOC content records are maintained, it would be unnecessary to report the location of all facilities where the subject products are manufactured or distributed. The EPA simplified the recordkeeping and reporting section for the initial notification reporting requirements to reduce the amount of reporting required.

Because the Initial Notification Report contains the title, name, address, and phone number of the responsible official, the location of each facility and the location where the VOC content records are maintained need only be supplied upon request by the Administrator, rather than with each Initial Notification Report. In addition, if the records specified in paragraphs (a)(1) and (a)(2) of section 59.209 are to be maintained by the manufacturer, the name and location of the designated recordkeeping agent must also be submitted as part of the Initial Notification Report.

5. Administrative provisions

Since proposal, the EPA has added several new sections to the regulation to aid in implementing the rule. These administrative provisions do not add any new compliance requirements to the rule, and pose no additional impacts on regulated entities. The new requirements were added to provide consistent procedures for implementation. The provisions that were added are as follow: (1) Addresses of EPA Regional Offices, (2) State Authority, (3) Circumvention, (4) Incorporations by Reference, and (5) Availability of Information and Confidentiality.

The section on addresses specifies the mailing addresses of EPA Regional Offices for the submittal of required reports. The States and territories served by the various Regional Offices are listed in this section as well. The appropriate Regional Office for purposes of reporting, variance applications, and innovative product applications would be that Regional Office which serves the State or territory in which the regulated entity's corporate headquarters are physically located.

The section on State authority clarifies that this rule in no way prevents States from adopting more stringent regulations. The section on circumvention prohibits regulated entities from doing anything to conceal what would otherwise be noncompliance, by such means as falsifying records of product formulation or VOC content. The section on incorporations by reference includes as part of the rule the

American Society for Testing and Materials (ASTM) methods that are cited by reference. Finally, the section on availability of information and confidentiality clarifies the type of information that is available to the public, and provides for the confidential handling of any proprietary information that may be submitted in response to the rule.

B. Significant Comments for Which No Rule Changes Were Made

In the preamble to the proposed rule (61 FR 14531, April 2, 1996), the EPA solicited comments on several issues pertinent to this and other section 183(e) rules. These issues included alternative approaches to cost-effectiveness calculation, other systems of regulation, use of control techniques guidelines (CTG) in lieu of regulations, and regulation of only the most cost-effective subset of the 24 consumer product categories. In addition, other significant issues that were the topic of public comments (e.g., exemption of low vapor pressure VOC, etc.) are discussed below. As distinct from EPA's consideration of cost in the BAC analysis, the discussion in this section did not form a basis for EPA's selection of BAC for the categories of products regulated by the rule.

1. Cost-Effectiveness

Cost-effectiveness is a measure used to compare alternative strategies for reducing pollutant emissions, or to provide a comparison of a new strategy with historical strategies. The EPA's established method of calculating cost-effectiveness of a rule with nationwide applicability is to divide the total cost of the rule by total emission reductions. In the proposal, the EPA requested comment on two alternative ways of calculating cost-effectiveness for the consumer products rule: (1) Cost-effectiveness considering emission reductions in ozone nonattainment areas only, and (2) cost-effectiveness considering emission reductions in ozone nonattainment areas during the ozone season only.

Before discussing the comments received on this cost-effectiveness methodology issue, it is important to note that the provisions and rationale for today's rule are not dependent upon the disposition of this issue. The EPA nonetheless took comment on the issue because this rule was the first to be proposed under section 183(e) of the Act and presented an opportunity to receive public input early in the program.

In regard to cost-effectiveness methodologies, the EPA received

comments from seven commenters who expressed divergent views on the proper approach. Some favored the EPA's traditional measure of cost-effectiveness, while others favored alternative approaches. After considering these comments, the EPA does not plan to adopt these alternative approaches to calculating cost-effectiveness for rules with nationwide control requirements, for reasons that are presented below.

One issue raised by the comments is whether the EPA's traditional measure creates a bias against strategies that apply in a limited geographic area (e.g., in nonattainment areas) relative to nationwide strategies, or against seasonal strategies relative to year-round strategies. This issue would arise if the EPA used cost-effectiveness figures to compare the desirability of these dissimilar types of strategies. In fact, the EPA did not use cost-effectiveness estimates in this way in developing the consumer products rule.

In the case of the consumer products rule, the EPA considered applying restrictions to consumer products only in nonattainment areas (either by rule or through CTG for States). The EPA believes that geographically targeted restrictions for these nationally distributed consumer products would pose substantial implementation difficulties for government and would impose substantial compliance burdens on a large number of regulated entities. The EPA also believes that such geographically targeted restrictions for these nationally distributed products would be less effective at reducing emissions than a national rule (see section IV.A. for further discussion). Because the EPA determined that a strategy applicable only to nonattainment areas would be less desirable than a national rule, the EPA did not see a need to invest resources to pursue that strategy and calculate its cost-effectiveness.

Some commenters said using one of the alternative cost-effectiveness methodologies would enable the EPA to make valid cost-effectiveness comparisons between nationwide and targeted geographic strategies, or year-round and seasonal strategies, for reducing ozone pollution. The EPA has not chosen these alternatives because it has the following concerns about the two alternative approaches:

First, VOC emission reductions have benefits other than reducing ozone levels in nonattainment areas. As a result, the EPA believes the cost-effectiveness calculation for a nationwide, year-round rule should not exclude VOC emission reductions in

attainment areas or outside the ozone season. The EPA recognizes that a primary objective of section 183(e) of the Act is to reduce VOC emissions in ozone nonattainment areas. However, as previously explained, in the development of the consumer products rule, the EPA believes that the best policy alternative is to implement a nationwide rule. Therefore, emission reductions from this rule will not only be realized in ozone nonattainment areas, but also in all other parts of the country in which consumer products are distributed and consumed.

In general, the benefits of VOC reductions in ozone attainment areas include reductions in emissions of VOC air toxics, reductions in the contribution from VOC emissions to the formation of fine particulate matter, and reductions in damage to agricultural crops, forests, and ecosystems from ozone exposure. Emission reductions in attainment areas help to maintain clean air as the economy grows and new pollution sources come into existence. Also, ozone health benefits can result from reductions in attainment areas, although the most certain health effects from ozone exposure below the NAAQS appear to be both transient and reversible. The closure letter from the Clear Air Science Advisory Committee (CASAC) for the recent review of the ozone NAAQS states that there is no apparent threshold for biological responses to ozone exposure (Source: U.S. EPA; Review of NAAQS for Ozone, Assessment of Scientific and Technical Information, Office of Air Quality Planning and Standards Staff Paper; document number: EPA-452/R-96-007).

Second, under either alternative approach, emission reductions in ozone attainment areas would not be included in the calculation. This appears to imply that emissions reductions in attainment areas do not contribute to cleaner air in nonattainment areas. VOC sources in regions adjacent to nonattainment areas may contribute to ozone levels in nonattainment areas. As a result, a cost-effectiveness comparison based on the alternative approaches sometimes could create a bias against a nationwide rule relative to a strategy that applies in nonattainment areas only.

In light of the transport issue, one commenter suggested that the EPA apply a weighting factor to account for differences in the extent to which emissions inside and outside nonattainment areas contribute to ozone formation in nonattainment areas. The EPA is concerned that in order to calculate cost-effectiveness using this concept, the EPA would have to

conduct extensive and costly air quality modeling to estimate ozone reductions resulting from each candidate control strategy and that this would require extensive data on the location of emissions. Such detailed analysis is appropriate for some policy decisions, but not for others. As a result, the EPA is skeptical that this weighting approach would represent a generally useful analytical tool for decision making.

The EPA, of course, agrees that differences in the location and timing of emission reductions are a significant consideration in choosing among alternative strategies. The extent of ozone reductions and other benefits resulting from VOC emission reductions varies, partly based on location and season. In considering nationwide vs. geographically targeted controls, and year-round vs. seasonal controls, the EPA considers available information on the effectiveness of those strategies in reducing ozone—as well as other health and environmental considerations, economic considerations, and other relevant factors—in making a holistic assessment of which strategy is most desirable from an overall public policy standpoint.

There are instances where the EPA does provide an estimate of cost-effectiveness of a control strategy during the ozone season—generally, when a control strategy is feasible to apply on a seasonal basis, or when limits are set on a seasonal basis. Although these figures are useful for comparing different seasonal strategies, the EPA does not plan to use cost-effectiveness figures for inappropriate (i.e., apple to orange) comparisons between seasonal and year-round strategies for the 183(e) program for the reasons presented above. In regard to today's rule, the EPA notes that the nature of consumer product emissions does not allow for control strategies that reduce emissions only during the ozone season to be an objective for consideration. One reason is that the shelf life and consumption rate of consumer products varies greatly and one cannot predict that a certain percentage of a product made with a specified formulation will be consumed and thus emitted during the ozone season. Because the Agency has concluded that an ozone season-based approach is not a viable control strategy for consumer products, the EPA did not believe it was appropriate to develop a seasonal-based approach to measuring cost-effectiveness for the consumer product rule.

2. Other Systems of Regulation

In the preamble to the proposed rule (61 FR 14531, April 2, 1996) the EPA

requested comment on any alternative to the proposed system of regulation. Two commenters commented on the inclusion of emissions trading under the proposed Open Market Trading Rule (OMTR) or Guidance Document as an option for compliance with the consumer product regulation. One commenter stated that open market trading assures product quality while providing flexibility, cost savings, incentives for innovation, and increased environmental performance to both consumers and manufacturers of consumer products. The commenter stated that open market trading increases the performance and effectiveness of the consumer products rule in achieving meaningful ozone reduction. The commenter stated that open market compliance options also ensure that smaller manufacturers or marketers are not disadvantaged or put out of business by the implementation of the regulations, which would reduce competition and increase consumer costs.

One commenter stated that consumer product emission credit trading is not appropriate for this regulation because market incentives, including allowance for trading of emission credits from consumer products, have not been adequately considered in this rulemaking action and consumer product credit trading is extremely controversial. This commenter stated that allowing the trading of emission credits can put some companies at an extreme competitive disadvantage because of the highly competitive nature of the consumer product market and the wide diversity of resources and product mix between consumer product manufacturers and distributors.

The EPA believes it is not appropriate to include the open market trading provisions as a means for complying with the VOC limits for the categories of consumer products subject to the final rule. The national standards for consumer products would regulate products that typically are distributed nationwide. By comparison, the open market trading guidance alluded to by the commenter (proposed August 25, 1995, 60 FR 44290) is for State-developed regional trading programs addressing the generation and use of discrete emission reductions within the nonattainment areas covered by the program.

Three commenters requested that the EPA adopt an alternative control plan (ACP) similar to the California Air Resources Board's ACP. An ACP allows manufacturers that are unable to meet a specific VOC content limit for one product to balance their non-compliant

product with the VOC reduction benefit from an over-compliant product. One commenter indicated that an ACP is essential for sound consumer product regulation because it provides the ability to reduce VOC emissions while retaining the flexibility of continuing to market a regulated product with a formulation that has superior performance, thereby benefiting consumers. The commenter stated that an ACP would provide an economic incentive to develop product technologies that are lower in VOC than required by the table of standards and that a table of standards alone tends to freeze technology development. The commenter suggested that the EPA add an ACP provision to the national consumer product rule at the first opportunity, without delaying the adoption of the national rule.

The EPA has not adopted an ACP in the final rule but is still considering whether or not to engage in a separate rulemaking effort to develop one. The commenter's points will be factored into this consideration. If warranted, the ACP will be proposed at a later date.

3. Use of Control Techniques Guidelines in Lieu of a National Rule

The EPA requested comment on whether and how a CTG approach would be as effective as a national rule in reducing VOC emissions from consumer products in ozone nonattainment areas. Over 40 commenters stated that they support a national consumer products rule. In general, the commenters gave similar reasons for their position as presented below:

(i) A national rule is an effective way to ensure substantial reduction in VOC emissions from consumer products without banning any one product category or product form.

(ii) A national rule would reduce burden on manufacturers since it would reduce or eliminate the need for multiple formulations to comply with different State and local requirements.

Three commenters opposed a CTG approach for the following reasons:

(iii) A CTG would require that States with ozone nonattainment areas adopt minimum requirements for those specific areas which would discourage States from implementing a statewide regulation and would, therefore, result in fewer emission reductions.

(iv) Ozone precursor emissions reductions (i.e., VOC and NO_x) are necessary in both attainment and nonattainment areas for nonattainment areas to achieve the ozone NAAQS.

(v) A CTG-based approach would complicate both rule development and

rule enforcement as it is possible that each nonattainment area could adopt slightly different regulations.

(vi) A CTG would not be as effective as a national rule for consumer products due to transportability of products and other considerations.

The EPA believes that regulating manufacturers and importers is an effective approach for reducing emissions from consumer products, especially those that are easily transportable and widely distributed to consumers for use in unlimited locations. For these types of products, it appears that regulating only in nonattainment areas would not be as effective as a uniform, national regulation. The transportability of products tends to decrease rule effectiveness for rules that vary by location due to the likelihood of unregulated, non-compliant products being bought in attainment areas and used in nonattainment areas. For this reason and since the end-users include widely varied consumers, effective enforcement would be limited.

In addition, industry has advised the EPA that the cost of having different product lines for attainment versus nonattainment areas could be cost-prohibitive because of the duplicative effort of labeling, storage, and distribution management. Therefore, the EPA expects that using CTG or rules that apply only in nonattainment areas would be less effective than a national rule. Also, during the development of the proposed rule, industry representatives expressed concern that differences in State and local requirements for consumer products, as would occur under a CTG approach, could disrupt the national distribution network for consumer products. Based on these considerations and comments received, the EPA has determined that a CTG for the consumer products category would not be substantially as effective as a national rule in reducing VOC emissions in ozone nonattainment areas. Therefore, the EPA is promulgating the standards for consumer products as a uniform, national rule.

4. Regulation of Only a Subset of Consumer Products

The EPA requested comment on setting emission limits for a subset of the 24 consumer product categories that were most cost effective for regulation. One commenter supported selecting the categories which provided the biggest emissions reductions for the least cost. Another responder supported the EPA regulating all 24 categories. The EPA has concluded that the most reasonable

approach is to promulgate rules for all 24 of the listed consumer product categories. Based on public comments, there are no adverse impacts of promulgating BAC for these products. While controls for some products may be more cost-effective than for others, the EPA has concluded that a strategy of regulating a subset of these categories based on cost-effectiveness would be counter productive. The potential efficiency from a cost-effectiveness approach would be more than offset by the extra costs to the industry of inconsistent regulations across the States.

V. Administrative Requirements

A. Docket

The docket is an organized and complete file of all the information considered by the EPA in the development of this rulemaking. The docket is a dynamic file, since material is added throughout the rulemaking development. The docketing system is intended to allow members of the public to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the statement of basis and purpose of the proposed and promulgated standards (technical support document submitted at proposal) and the EPA responses to significant comments, the contents of the Docket will serve as the record in case of judicial review (see 42 U.S.C. 7607(d)(7)(A)).

B. Paperwork Reduction Act

The Office of Management and Budget (OMB) has approved the information collection requirements contained in this rule under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501, *et seq.*, and has assigned OMB Control Number 2060-0348.

The information collection required by this rule is needed as part of the overall compliance and enforcement program. It is necessary to identify the regulated entities who are subject to the rule and ensure their compliance with the rule. The recordkeeping and reporting requirements are mandatory and are being established under section 114 of the Act. All information submitted to the EPA for which a claim of confidentiality is made will be safeguarded according to the EPA policies set forth in Title 40, Chapter 1, Part 2, Subpart B—Confidentiality of Information (see 40 CFR part 2; 41 FR 36902, September 1, 1976; amended by 43 FR 39999, September 8, 1978; 43 FR 42251, September 28, 1978; 44 FR 17674, March 23, 1979).

The total annual reporting and recordkeeping burden for this collection averaged over the first 3 years is estimated to be 28,386 hours per year. The average burden, per respondent, is 129 hours per year. The total annualized recordkeeping and reporting costs for this rule are estimated to be \$964,416 and consist wholly of operation and maintenance costs. There are no capital or startup costs, or purchased services costs associated with the reporting and recordkeeping requirements of this rule. There would be an estimated 220 respondents to the collection requirements. Average annualized cost of reporting and recordkeeping, per respondent, is \$4,384.

This rule requires an initial one-time notification from each respondent and subsequent notifications each time the date code is changed.

Formulations and ingredient usage would be recorded for each batch of production. Respondents seeking a variance must submit an application which provides information to the EPA necessary in determining whether to grant the variance.

The application would include the specific grounds on which the variance is sought, proposed date by which the requirements of the rule will be met, and a plan for achieving compliance. Supporting documentation is required of companies who wish to market a product subject to the "innovative products" provision of the rule. This documentation includes information on VOC emissions from the use of the product as compared to emissions from a product formulated in compliance with the rule. The rule requires that the packaging of all subject consumer products display the date of manufacture. The date can be in coded form. However, there should be no additional burden imposed due to this labeling requirement, because manufacturers routinely date-code their products. All regulated entities of subject products must submit an explanation of all date codes used. Date code explanations must be included with the initial report. Thereafter, respondents must submit explanations of any new date codes within 30 days following the change.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing

and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB Control Number. The OMB Control Numbers for the EPA's regulations are listed in 40 CFR part 9 and 48 CFR Chapter 15. The EPA is amending the table in 40 CFR part 9 of currently approved information collection request control numbers issued by OMB for various regulations to list the information requirements contained in this final rule.

C. Executive Order 12866

Under Executive Order 12866 (58 FR 51735 (October 4, 1993)), the EPA must determine whether a 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, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of this Executive Order, OMB has notified the EPA that it considers this a "significant regulatory action" within the meaning of the Order. The EPA submitted this action to OMB for review. Any changes made in response to OMB suggestions or recommendations are documented in the public record.

D. Executive Order 12875

To reduce the burden of Federal regulations on States and small governments, the President issued Executive Order 12875 on October 26, 1993, entitled "Enhancing the Intergovernmental Partnership." In particular, this Executive Order is

designed to require agencies to assess the effects of regulations that are not required by statute and that create mandates upon State, local, or tribal governments. While this regulation does not create mandates upon State, local, or tribal governments, the EPA has involved State and local governments in the development of this rule. State and local air pollution control associations (California Air Resources Board, New Jersey Department of Environmental Protection, Wisconsin Department of Natural Resources, and State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials) have provided regulatory review support.

E. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) requires Federal agencies to give special consideration to the impact of regulations on small entities. Under the RFA, an agency is required to prepare a regulatory flexibility analysis for a rule that the agency certifies will have a significant economic impact on a substantial number of small entities. While the EPA is certifying that today's rule will not have a significant economic impact on a substantial number of small entities, the EPA nonetheless prepared analyses to support both the proposed and final rules that are equivalent to that required by the RFA as modified by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

The analysis supporting the proposed rule was published in the report titled, "Economic Impact and Regulatory Flexibility Analysis of Air Pollution Regulations: Consumer and Commercial Products," (January 1996). This analysis showed that almost 80 percent of the consumer product firms identified as subject to the regulation are considered "small" according to the Small Business Administration's definitions for the affected industries. This analysis indicated that for most of the consumer products categories evaluated, there are relatively few large producers which account for the majority of market output in most categories and numerous small producers accounting for a small percentage of the remaining market volume. The EPA analysis concludes that the rule will have some impact on small producers by virtue of the fact that they have a considerable presence in a small number of regulated industries and may be likely to experience higher rates of product withdrawal (in comparison to large firms) because it would cost less to forego product profits than to incur the cost of reformulation. In addition, the analysis does not find

any indications of a disproportionate impact on small businesses in comparison to large firms because the impact of the regulation will not fall most heavily on those product categories with the largest small business presence. The markets most heavily affected by the consumer and commercial products regulation are not the markets with the greatest small business presence. Therefore, the EPA certified at proposal that there was not a significant impact on a substantial number of small entities. The EPA did not receive any comments on the technical approach to the analysis.

The analysis prepared to support the final rule builds upon the analysis performed for the proposal. In this analysis, the EPA calculated compliance costs as a percentage of firm revenues for a sample of 173 small entities (as defined by the Small Business Administration). Of these firms, only 21 (12 percent) may experience compliance costs greater than one percent of revenues and only 15 firms (9 percent) may experience compliance costs greater than 3 percent of revenues. The EPA assumes that the impacts on the sample of firms is representative of the distribution of impacts likely to be imposed on all firms that are affected by the rule.

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule. The EPA has also determined that this rule will not have a significant economic impact on a substantial number of small entities. Based on the results of the analysis at proposal (which was unaffected by public comments), and the fact that 88 percent of the sampled firms show low cost-to-sales ratios, the EPA concluded that this rule does not have a significant economic impact on a substantial number of small entities.

F. Submission to Congress and the Comptroller General

The Congressional Review Act, 5 U.S.C. 801, *et seq.*, as added by SBREFA, 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. The EPA will submit a report containing this rule and other required information to the United States Senate, the United States 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 rule is not a "major rule" as defined by 5 U.S.C. 804(2). This rule will be effective September 11, 1998.

G. Unfunded Mandates Act of 1995

Under section 202 of the Unfunded Mandates Reform Act of 1995 (Unfunded Mandates Act), signed into law on March 22, 1995, the EPA must prepare a budgetary impact statement to accompany any proposed or final rule that includes a Federal mandate that may result in estimated costs to State, local, or tribal governments in the aggregate, or to the private sector, of \$100 million or more. Under section 205, the EPA must select the most cost-effective and least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 203 requires the EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the rule.

The EPA has determined that the action promulgated today does not include a Federal mandate that may result in estimated costs of \$100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector. Therefore, the requirements of the Unfunded Mandates Act do not apply to this action.

H. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (the NTTAA), Pub. L. No. 104-113, section 12(d) (15 U.S.C. 272 note), directs the 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, business practices, etc.) that are developed or adopted by voluntary consensus standard bodies. The NTTAA requires the EPA to provide Congress, through OMB, explanations when the EPA decides that to use available and applicable voluntary consensus standards.

In the case of this rule, the proposed rule set forth the procedures for the testing of charcoal lighter fluid as the required "charcoal lighter material testing protocol." The EPA intended the charcoal lighter material testing protocol to be the equivalent of the existing test method used by the California South Coast Air Quality Management District (SCAQMD). The EPA chose this method, in part, to avoid creation of

multiple testing protocols and to make use of an existing method which the EPA considered appropriate. In response to the proposed rule, the EPA received no comments pertaining to the use of voluntary consensus standards rather than the proposed testing protocol, either during or after the comment period. In preparing the final rule, however, the EPA has investigated to determine the availability of any other existing voluntary consensus standards for use in lieu of the proposed testing protocol.

The EPA has reviewed the standards listed in the National Standards System Network maintained by the American National Standards Institute and the EPA has located no alternative voluntary consensus standards for performing the function to be accomplished by the testing protocol. In addition, the EPA believes that it is appropriate to use the testing protocol developed by SCAQMD both because it has proven reliable and practical to achieve the goals of reducing VOC and because the EPA wishes to foster uniformity in testing nationwide. Accordingly, the EPA has determined that the charcoal lighter material testing protocol set forth in the proposed rule, as modified pursuant to comments for consistency with the SCAQMD test method, constitutes the appropriate method for determining product compliance under this final rule.

I. Applicability of Executive Order 13045

Executive Order 13045 applies to any rule that the EPA determines: (1) "economically significant" as defined under Executive Order 12866, and (2) the environmental health or safety risk addressed by the rule has a disproportionate effect on children. If the regulatory action meets both criteria, the EPA must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the EPA.

This proposed rule is not subject to Executive Order 13045, entitled "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because it is not an economically significant regulatory action as defined by Executive Order 12866, and it does not address an environmental health or safety risk that would have a disproportionate effect on children.

Executive Order 13084

Under Executive Order 13084, the 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 the EPA provides to the Office of Management and Budget a description of the prior consultation and communications the agency has had with representatives of tribal governments and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires the EPA to develop an effective process permitting elected 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." Information available to the Administrator does not indicate that this action will have any effect on Indian tribal governments.

List of Subjects*40 CFR Part 59*

Environmental protection, Air pollution control, Consumer and commercial products, Consumer products, Incorporation by reference, Ozone, Volatile organic compound.

40 CFR Part 9

Reporting and recordkeeping requirements.

Dated: August 14, 1998.

Carol M. Browner,
Administrator.

For the reasons set out in the preamble, parts 9 and 59 of title 40 of the Code of Federal Regulations are amended as follows:

PART 9—OMB APPROVALS UNDER THE PAPERWORK REDUCTION ACT

1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135 *et seq.*, 136–136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601–2671; 21 U.S.C. 331, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251 *et seq.*, 1311, 1313d, 1314, 1321, 1326, 1330, 1344, 1345(d), and (e), 1381; E.O. 11735, 38 FR 21243, 3 CFR, 1971–1975 Comp. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g–I, 300j–2, 300–3, 300j–4, 300j–9, 1857 *et seq.*, 6901–6992k, 7401–7671q, 7542, 9601–9657, 11023, 11048.

2. Section 9.1 is amended by adding a new entry to the table under the

indicted heading in numerical order to read as follows:

§ 9.1 OMB approvals under the Paperwork Reduction Act.

40 CFR citation	OMB control No.
* * *	* * *
National Volatile Organic Compound Emission Standards for Consumer Products	
* * *	* * *
59.209	2060–0348
* * *	* * *

PART 59—NATIONAL VOLATILE ORGANIC COMPOUND EMISSION STANDARDS FOR CONSUMER AND COMMERCIAL PRODUCTS

1. The authority citation for part 59 continues to read as follows:

Authority: 42 U.S.C. 7511b(e)

2. Part 59 is amended by adding subpart C to read as follows:

Subpart C—National Volatile Organic Compound Emission Standards for Consumer Products

Sec.

- 59201 Applicability and designation of regulated entity.
 59202 Definitions.
 59203 Standards for consumer products.
 59204 Innovative product provisions.
 59205 Labeling.
 59206 Variances.
 59207 Test methods.
 59208 Charcoal lighter material testing protocol.
 59209 Recordkeeping and reporting requirements.
 59210 Addresses of EPA Regional Offices.
 59211 State authority.
 59212 Circumvention.
 59213 Incorporations by reference.
 59214 Availability of information and confidentiality.
 Table 1 to Subpart C—VOC Content Limits by Product Category
 Table 2 to Subpart C—HVOC1 Content Limits for Underarm Deodorants and Underarm AntiPerspirants
 Appendix A to Subpart C—Figures

Subpart C—National Volatile Organic Compound Emission Standards for Consumer Products**§ 59.201 Applicability and designation of regulated entity.**

(a) The provisions of the subpart apply to consumer products manufactured or imported on or after December 10, 1998 for sale or distribution in the United States.

(b) The regulated entity is: the manufacturer or importer of the product; and any distributor that is named on the product label. The manufacturer or importer of the product

is a regulated entity for purposes of compliance with the volatile organic compounds (VOC) content or emission limits in § 49.203, regardless of whether the manufacturer or importer is named on the label or not. The distributor, if named on the label, is the regulated entity for purposes of compliance with all sections of this part except for § 59.203. Distributors whose names do not appear on the label are not regulated entities. If no distributor is named on the label, then the manufacturer or importer is responsible for compliance with all sections of this part.

(c) The provisions of this subpart do not apply to consumer products that meet the criteria specified in paragraph (c)(1) through (c)(7) of this section.

(1) Any consumer product manufacturer in the United States for shipment and use outside of the United States.

(2) Insecticides and air fresheners containing at least 98-percent paradichlorobenzene or at least 98-percent naphthalene.

(3) Adhesives sold in containers of 0.03 liter (1 ounce) or less.

(4) Bait station insecticides. For the purpose of this subpart, bait station insecticides are containers enclosing an insecticidal bait that does not weigh more than 14 grams (0.5 ounce), where bait is designed to be ingested by insects and is composed of solid material feeding stimulants with less than 5-percent by weight active ingredients.

(5) Air fresheners whose VOC constituents, as defined in §§ 59.202 and 59.203(f), consist of 100-percent fragrance.

(6) Non-aerosol moth proofing products that are principally for the protection of fabric from damage by moths and other fabric pests in adult, juvenile, or larval forms.

(7) Flooring seam sealers used to join or fill the seam between two adjoining pieces of flexible sheet flooring.

§ 59.202 Definitions.

The terms used in this subpart are defined in the Clean Air Act (Act) or in this section as follows:

Administrator means the Administrator of the United States Environmental Protection Agency (EPA) or an authorized representative.

Aerosol cooking spray means any aerosol product designed either to reduce sticking on cooking and baking surfaces or to be directly applied on food for the purpose of reducing sticking on cooking and baking surfaces, or both.

Aerosol product means a product characterized by a pressurized spray system that dispenses product

ingredients in aerosol form by means of a propellant (i.e., a liquefied or compressed gas that is used in whole or in part, such as a co-solvent, to expel a liquid or any other material from the same self-pressurized container or from a separate container) or mechanically induced force. "Aerosol product" does not include pump sprays.

Agricultural use means the use of any pesticide or method or device for the control of pests in connection with the commercial production, storage, or processing of any animal or plant crop. "Agricultural use" does not include the sale or use of pesticides in properly labeled packages or containers that are intended for:

- (1) Household use;
- (2) Use in structural pest control; or
- (3) Institutional use.

Air freshener means any consumer product including, but not limited to, sprays, wicks, powders, and crystals designed for the purpose of masking odors, or freshening, cleaning, scenting, or deodorizing the air. This does not include products that are used on the human body, products that function primarily as cleaning products, disinfectant products claiming to deodorize by killing germs on surfaces, or institutional/industrial disinfectants when offered for sale solely through institutional and industrial channels of distribution. It does include spray disinfectants and other products that are expressly represented for use as air fresheners, except institutional and industrial disinfectants when offered for sale through institutional and industrial channels of distribution. To determine whether a product is an air freshener, all verbal and visual representations regarding product use on the label or packaging and in the product's literature and advertising may be considered. The presence of, and representations about, a product's fragrance and ability to deodorize (resulting from surface application) shall not constitute a claim of air freshening.

All other forms means all consumer product forms for which no form-specific VOC standard is specified. Unless specified otherwise by the applicable VOC standard, "all other forms" include, but are not limited to, solids, liquids, wicks, powders, crystals, and cloth or paper wipes (towelettes).

Automotive windshield washer fluid means any liquid designed for use in a motor vehicle windshield washer system either as an antifreeze or for the purpose of cleaning, washing, or wetting the windshield. "Automotive windshield washer fluid" does not include fluids placed by the manufacturer in a new vehicle.

Bathroom and tile cleaner means a product designed to clean tile or surfaces in bathrooms. "Bathroom and tile cleaner" does not include products specifically designed to clean toilet bowls or toilet tanks.

Carburetor and choke cleaner means a product designed to remove dirt and other contaminants from a carburetor or choke. "Carburetor and choke cleaner" does not include products designed to be introduced directly into the fuel lines or fuel storage tank prior to introduction into the carburetor, or solvent use regulated under 40 CFR part 63, subpart T (halogenated solvent national emission standards for hazardous air pollutants (NESHAP)).

Charcoal lighter material means any combustible material designed to be applied on, incorporated in, added to, or used with charcoal to enhance ignition. "Charcoal lighter material" does not include any of the following:

- (1) Electrical starters and probes;
- (2) Metallic cylinders using paper tinder;
- (3) Natural gas; and
- (4) Propane.

Construction and panel adhesive means any one-component household adhesive having gap-filling capabilities that distributes stress uniformly throughout the bonded area resulting in a reduction or elimination of mechanical fasteners.

Consumer means any person who purchases or acquires any consumer product for personal, family, household, or institutional use. Persons acquiring a consumer product for resale are not "consumers" of that product.

Consumer product means any household or institutional product (including paints, coatings, and solvents), or substance, or article (including any container or packaging) held by any person, the use, consumption, storage, disposal, destruction, or decomposition of which may result in the release of VOC. For the purposes of this subpart, consumer product means any product listed in tables 1 or 2 of this subpart.

Contact adhesive means any household adhesive that:

- (1) When applied to two substrates, forms an instantaneous, nonrepositionable bond;
- (2) When dried to touch, exhibits a minimum 30-minute bonding range; and
- (3) Bonds only to itself without the need for reactivation by solvents or heat.

Container or packaging means the part or parts of the consumer product that serve only to contain, enclose, incorporate, deliver, dispense, wrap, or store the chemically formulated substance or mixture of substances that

is solely responsible for accomplishing the purposes for which the product was designed or intended. "Container or packaging" includes any article onto or into which the principal display panel is incorporated, etched, printed, or attached.

Crawling bug insecticide means any insecticide product that is designed for use against crawling arthropods including, but not limited to, ants, cockroaches, mites (but not house dust mites), silverfish, or spiders. "Crawling bug insecticide" does not include products for agricultural use or products designed to be used exclusively on humans or animals.

Distributor means any person to whom a consumer product is sold or supplied for the purposes of resale or distribution in commerce.

Double-phase aerosol air freshener means an aerosol air freshener with liquid contents in two or more distinct phases that requires the product container to be shaken before use to mix the phases, producing an emulsion.

Dusting aid means a product designed to assist in removing dust and other soils from floors and other surfaces without leaving a wax or silicone-based coating. "Dusting aid" does not include products that consist entirely of compressed gases for use in electronic or other specialty areas.

Engine degreaser means a cleaning product designed to remove grease, grime, oil, and other contaminants from the external surfaces of engines and other mechanical parts. "Engine degreaser" does not include any solvent used in parts washing equipment, or any solvent use regulated under 40 CFR part 63, subpart T (halogenated solvent NESHAP).

Fabric protectant means a product designed to be applied to fabric substrates to protect the surface from soiling from dirt and other impurities or to reduce absorption of water into the fabric's fibers. "Fabric protectant" does not include silicone-based products whose function is to provide water repellency, or products designed for use solely on fabrics that are labeled "dry clean only."

Flea and tick insecticide means any insecticide product that is designed for use against fleas, ticks, and their larvae, or their eggs. "Flea and tick insecticide" does not include products that are designed to be used exclusively on humans or animals or their bedding.

Flexible flooring material means asphalt, cork, linoleum, no-wax, rubber, seamless vinyl, and vinyl composite flooring.

Floor polish or wax means a wax, polish, or any other product designed to

polish, protect, or enhance floor surfaces by leaving a protective coating that is designed to be periodically replenished. "Floor polish or wax" does not include "spray buff products," products designed solely for the purpose of cleaning floors, floor finish strippers, products designed for unfinished wood floors, and coatings subject to 40 CFR part 59, subpart D—National Volatile Organic Compound Emission Standards for Architectural Coatings.

Floor seam sealer means any low viscosity specialty adhesive used in small quantities for the sole purpose of bonding adjoining rolls of installed flexible sheet flooring or to fill any minute gaps between and adjoining rolls.

Flying bug insecticide means any insecticide product that is designed for use against flying insects including, but not limited to, flies, mosquitoes, and gnats. "Flying bug insecticide" does not include "wasp and hornet insecticide" products that are designed to be used exclusively on humans or animals or their bedding.

Fragrance means a substance or mixture of aroma chemicals, natural essential oils, and other functional components that is added to a consumer product to impart an order or scent, or to counteract a malodor.

Furniture maintenance product means a wax, polish, conditioner, or any other product designed for the product designed for the purpose of polishing, protecting, or enhancing finished wood surfaces other than floors. Furniture maintenance product" does not include dusting aids, products designed solely for the purpose of cleaning, and products designed to leave a permanent finish such as stains, sanding sealers, and lacquers.

Gel means a colloid in which the dispersed phase has combined with the continuous phase to produce a semisolid material, such as jelly.

General purpose adhesive means any nonaerosol household adhesive designed for use on a variety of substrates. General purpose adhesives do not include contact adhesives or construction and panel adhesives.

General purpose cleaner means a product designed for general all-purpose cleaning, in contrast to cleaning products designed to clean specific substrates in certain situations. "General purpose cleaner" includes products designed for general floor cleaning, kitchen or countertop cleaning, and cleaners designed to be used on a variety of hard surfaces.

Glass cleaner means a cleaning product designed primarily for cleaning

surfaces made of glass. Glass cleaner does not include products designed solely for the purpose of cleaning optical materials used in eyeglasses, photographic equipment, scientific equipment, and photocopying machines.

Hair mousse means a hairstyling foam designed to facilitate styling of a coiffure and provide limited holding power.

Hair styling gel means a high-viscosity, often gelatinous product that contains a resin and is designed for the application to hair to aid in styling and sculpting of the hair coiffure.

Hairspray means a consumer product designed primarily for the purpose of dispensing droplets of a resin on and into a hair coiffure to impart sufficient rigidity to the coiffure to establish or retain the style for a period of time.

High-volatility organic compound or HVOC means any organic compound that exerts a vapor pressure greater than 80 millimeters of mercury when measured at 20 degrees Celsius.

Household adhesive means any household product that is used to bond one surface to another by attachment. "Household adhesive" does not include products used on humans or animals, adhesive tape, contact paper, wallpaper shelf liners, or any other product with an adhesive incorporated onto or in an inert substrate.

Household product means any consumer product that is primarily designed to be used inside or outside of living quarters or residences, including the immediate surroundings, that are occupied or intended for occupation by individuals.

Household use means use of a product in a home or its immediate environment.

Importer means any person who brings a consumer product that was manufactured, filled, or packaged at a location outside of the United States into the United States for sale or distribution in the United States.

Industrial use means use for, or in, a manufacturing, mining, or chemical process or use in the operation of factories, processing plants, and similar sites.

Insecticide means a pesticide product that is designed for use against insects or other arthropods, excluding any product that is:

- (1) For agricultural use; or
- (2) A restricted use pesticide.

Insecticide fogger means any insecticide product designed to release all or most of its content as a fog or mist into indoor areas during a single application. Floggers may target a variety of pests including (but not

limited to) fleas and ticks, crawling insects, lawn and garden pests, and flying insects. Foggers are not subject to the specific VOC limitations or other categories of insecticides list in table 1 of this subpart.

Institutional product means a consumer product that is designed for use in the maintenance or operation of an establishment that manufactures, transports, or sells goods or commodities, or provides services for profit; or is engaged in the nonprofit promotion of a particular public, educational, or charitable cause. "Establishments" include, but are not limited to, government agencies, factories, schools, hospitals, sanitariums, prisons, restaurants, hotels, stores, automobile service and parts centers, health clubs, theaters, or transportation companies. "Institutional product" does not include household products and products that are incorporated into or used exclusively in the manufacture or construction of the goods or commodities that are produced by the establishment.

Institutional use means use within the confines of or on property necessary for the operation of buildings' including, but not limited to, government agencies, factories, sanitariums, prisons, restaurants, hotels, stores, automobile service and parts centers, health clubs, theaters, transportation companies, hospitals, schools, libraries, auditoriums, and office complexes.

Label means any written, printed, or graphic matter affixed to, applied to, attached to, blown into, formed, molded into, embossed on, or appearing upon any consumer product package for purposes of branding, identifying, or giving information with respect to the product or to the contents of the package.

Laundry prewash means a product that is designed for application to a fabric prior to laundering and that supplements and contributes to the effectiveness of laundry detergents and/or provides specialized performance.

Laundry starch product means a product that is designed for application to a fabric, either during or after laundering, to impart and prolong a crisp look and may also facilitate ironing of the fabric. "Laundry starch product" includes, but it not limited to, fabric finish, sizing, and starch.

Lawn and garden insecticide means an insecticide product designed primarily to be used in household lawn and garden areas to protect plants from insects or other arthropods.

Liquid means a substance or mixture of substances that flows readily, but, unlike a gas, does not expand

indefinitely (i.e., a substance with constant volume but not constant shape). "Liquid" does not include powders or other materials that are composed entirely of solid particles.

Manufacturer means any person who manufactures or processes a consumer product. Manufacturers include:

- (1) Processors who blend and mix consumer products,
- (2) Contract fillers who develop formulas and package these formulas under a distributor's label;
- (3) Contract fillers who manufacture products using formulas provided by a distributor; and
- (4) Distributors who specify formulas to be used by a contract filler or processor.

Nail polish remover means a product designed to remove nail polish or coatings from fingernails or toenails.

Nonagricultural pesticide means and includes any substance or mixture of substances that is a pesticide as defined in section 2(u) of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136-136y).

Nonresilient flooring means floor of a mineral content that is not flexible. "Nonresilient flooring" includes, but is not limited to, terrazzo, marble, slate, granite, brick, stone, ceramic tile, and concrete.

Oven cleaner means any cleaning product designed to clean and to remove dried food deposits from oven interiors.

Person means an individual corporation, partnership, association, State, any agency, department, or instrumentality of the United States, and any officer, agent, or employee thereof.

Principal display panel(s) means that part, or those parts, of a label that are so designed as to most likely be displayed, presented, shown, or examined under normal and customary conditions of display or purchase. Whenever a principal display panel appears more than once, all requirements pertaining to the "principal display panel" shall pertain to all such "principal display panels."

Product category means that applicable category which best describes the product as listed in tables 1 or 2 of this subpart and which appears on the product's principal display panel.

Product form means the form that most accurately describes the product's dispensing from including aerosols, gels, liquids, pump sprays, and solids.

Pump spray means a packaging system in which the product ingredients are expelled only while a pumping action is applied to a button, trigger, or

other actuator. Pump spray product ingredients are not under pressure.

Representative consumer product means a consumer product that is subject to the same VOC limit in § 59.203 as the innovative product.

Restricted use pesticide means a pesticide that has been classified for restricted use under the provisions of section 3(d) of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136-136y).

Shaving cream means an aerosol product that dispenses a foam lather intended to be used with a blade or cartridge razor, or other wet-shaving system in the removal of facial or other body hair.

Single-phase aerosol air freshener means an aerosol air freshener with liquid contents in a single homogeneous phase that does not require that the product container be shaken before use.

Solid means a substance or mixture of substances that does not flow or expand readily (i.e., a substance with constant volume such as the particles constituting a powder). "Solid" does not include liquids or gels.

Spray buff product means a product designed to restore a worn floor finish in conjunction with a floor buffing machine and special pad.

Structural waterproof adhesive means an adhesive whose bond lines are resistant to conditions of continuous immersion in fresh or salt water, and that conforms with Federal Specification MMM-A-181 (Type 1, Grade A), and MIL-A-4605 (Type A, Grade A and Grade C).

Underarm antiperspirant means any aerosol product that is intended by the manufacturer to be used to reduce perspiration in the human axilla by at least 20 percent in at least 50 percent of a target population.

Underarm deodorant means any aerosol product that is intended by the manufacturer to be used minimize odor in the human axilla by retarding the growth of bacteria that cause the decomposition of perspiration.

United States means the United States of America, including the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Usage directions means the text or graphics on the consumer product's label or accompanying literature that describes to the end user how and in what quantity the product is to be used.

Volatile organic compound or VOC means any compound that meets the definition of a VOC, as defined under 40

CFR part 51, subpart F, and in subsequent amendments.

Wasp and hornet insecticide means any insecticide product that is designed for use against wasps, hornets, yellow jackets, or bees by allowing the user to spray a high-volume directed stream or burst from a safe distance at the intended pest or its hiding place.

Wax means an organic mixture or compound with low melting point and high molecular weight, which is solid at room temperature. Waxes are generally similar in composition to fats and oils except that they contain no glycerides. "Wax" includes, but is not limited to, substances such as carnauba wax, lanolin, and beeswax derived from the secretions of plants and animals; substances of a mineral origin such as ozocerite, montan, and paraffin; and synthetic substances such as chlorinated naphthalenes and ethylenic polymers.

Wood floor wax means wax-based products for use solely on wood floors.

§ 59.203 Standards for consumer products.

(a) The manufacturer or importer of any consumer product subject to this subpart shall ensure that the VOC content levels in table 1 of this subpart and HVO content levels in table 2 of this subpart are not exceeded for any consumer product manufactured or imported on or after December 10, 1998, except as provided in paragraphs (b) and (c) of this section, or in §§ 59.204 or 59.206.

(b) For consumer products for which the label, packaging, or accompanying literature specifically states that the product should be diluted prior to use, the VOC content limits specified in paragraph (a) of this section shall apply to the product only after the minimum recommended dilution has taken place. For purposes of this paragraph, "minimum recommended dilution" shall not include recommendations for incidental use of a concentrated product to deal with limited special applications such as hard-to-remove soils or stains.

(c) For those consumer products that are registered under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. section 136-136y) (FIFRA), the compliance date of the VOC standards specified in paragraph (a) of this section is December 10, 1999.

(d) The provisions specified in paragraphs (d)(1) through (d)(4) of this section apply to charcoal lighter materials.

(1) No person shall manufacture or import any charcoal lighter material after December 10, 1998 that emits, on average, greater than 9 grams of VOC per

start, as determined by the procedures specified in § 59.208.

(2) The regulated entity for a charcoal lighter material shall label the product with usage directions that specify the quantity of charcoal lighter material per pound of charcoal that was used in the testing protocol specified in § 59.208 for that product unless the provisions in either paragraph (e)(2)(i) or (e)(2)(ii) of this section apply.

(i) The charcoal lighter material is intended to be used in fixed amounts independent of the amount of charcoal used, such as paraffin cubes; or

(ii) The charcoal lighter material is already incorporated into the charcoal, such as certain "bag light," "instant light," or "match light" products.

(3) Records of emission testing results for all charcoal lighter materials must be made available upon request to the Administrator for enforcement purposes within 30 days of receipt of such requests.

(4) If a manufacturer or importer has submitted records of emission testing of a charcoal lighter material to a State or local regulatory agency, such existing records may be submitted under paragraph (d)(3) of this section in lieu of new test data, provided the product formulation is unchanged from that which was previously tested. Such previous testing must have been conducted in accordance with the test protocol described in § 59.208 or a test protocol that is approved by the Administrator as an alternate.

(e) Fragrances incorporated into a consumer product up to a combined level of 2 weight-percent shall not be included in the weight-percent VOC calculation.

(f) The VOC content limits in table 1 of this subpart shall not include any VOC that:

(1) Has a vapor pressure of less than 0.1 millimeters of mercury at 20 degrees Celsius; or

(2) Consists of more than 12 carbon atoms, if the vapor pressure is unknown; or

(3) Has a melting point higher than 20 degrees Celsius and does not sublime (i.e., does not change directly from a solid into a gas without melting), if the vapor pressure is unknown.

(g) The requirements of paragraph (a) of this Section shall not apply to those VOC in antiperspirants or deodorants that contain more than 10 carbon atoms per molecule and for which the vapor pressure is unknown, or that have a vapor pressure of 2 millimeters of mercury or less at 20 degrees Celsius.

(h) a manufacturer or importer may use the vapor pressure information provided by the raw material supplier as

long as the supplier uses a method to determine vapor pressure that is generally accepted by the scientific community.

(i) For hydrocarbon solvents that are complex mixtures of many different compounds and that are supplied on a specification basis for use in a consumer product, the vapor pressure of the hydrocarbon blend may be used to demonstrate compliance with the VOC content limits of this section. Identification of the concentration and vapor pressure for each such component in the blend is not required for compliance with this subpart.

§ 59.204 Innovative product provisions.

(a) Upon notification to the Administrator, a consumer product that is subject to this subpart may exceed the applicable limit in table 1 or 2 of this subpart if the regulated entity demonstrates that, due to some characteristic of the product formulation, design, delivery systems, or other factors, the use of the product will result in equal or less VOC emissions that specified in paragraph (a)(1) or (a)(2) of this section.

(1) The VOC emissions from a representative consumer product, as described in § 59.202, that complies with the VOC standards specified in § 59.203(a); or

(2) The calculated VOC emissions from a noncomplying representative product, if the product had been reformulated to comply with the VOC standards specified in § 59.203(a). The VOC emissions shall be calculated by using Equation 1.

$$E_R = E_{NC} \times \frac{VOC_{STD}}{VOC_{NC}} \quad \text{Equation 1}$$

Where

E_R = The VOC emissions from the noncomplying representative product, had it been reformulated.

E_{NC} = The VOC emissions from the noncomplying representative product in its current formulation.

VOC_{STD} = The VOC standard specified in § 59.203(a).

VOC_{NC} = The VOC content of the noncomplying product in its current formulation.

(b) If a regulated entity demonstrates to the satisfaction of the Administrator that the equation in paragraph (a)(2) of this section yields inaccurate results due to some characteristic of the product formulation or other factors, an alternate method that accurately calculates emissions may be used upon approval of the Administrator.

(c) A regulated entity shall notify the Administrator in writing of its intent to

enter into the market an innovative product meeting the requirements of paragraph (a) of this section. The Administrator must receive the written notification by the time the innovative product is available for sale or distribution to consumers. Notification shall include the information specified in paragraph (c)(1) and (c)(2) of this section.

(1) Supporting documentation that demonstrates the emissions from the innovative product, including the actual physical test methods used to generate the data and, if necessary, the consumer testing undertaken to document product usage;

(2) Any information necessary to enable the Administrator to establish enforceable conditions for the innovative product, including the VOC content of the innovative product expressed as a weight-percentage, and test methods for determining the VOC content.

(d) At the option of the regulated entity, the regulated entity may submit a written request for the Administrator's written concurrence that the innovative product fulfills the requirements of paragraph (a) of this section. If such a request is made, the Administrator will respond as specified in paragraphs (d)(1) through (d)(3) of this section.

(1) The Administrator will determine within 30 days of receipt whether the documentation submitted in accordance with paragraph (d) of this section is complete.

(2) The Administrator will determine whether the innovative product shall be exempt from the requirements of § 59.203(a) within 90 days after an application has been deemed complete.

The applicant and the Administrator may mutually agree to a longer time period for reaching a decision, and additional supporting documentation may be submitted by the applicant before a decision has been reached. The Administrator will notify the applicant of the decision in writing and specify such terms and conditions that are necessary to insure that emissions from the product will meet the emissions reductions specified in paragraph (a) of this section, and that such emissions reductions can be enforced.

(3) If an applicant has been granted an exemption to a State or local regulation for an innovative product by a State or local agency whose criteria for exemption meet or exceed those provided for in this section, the applicant may submit the factual basis for such an exemption as part of the documentation required under paragraph (d) of this section. In such case, the Administrator will make the

determination required under this paragraph within 45 days after the applications is considered complete.

(e) In granting an exemption for a product, the Administrator will establish conditions that are enforceable. These conditions may include the VOC content of the innovative product, dispensing rates, application rates, and any other parameters determined by the Administrator to be necessary. The Administrator will also specify the test methods for determining conformance to the conditions established, including criteria for reproducibility, accuracy, and sampling and laboratory procedures.

(f) For any product for which an exemption has been granted pursuant to this section, the regulated entity to whom the exemption was granted shall notify the Administrator in writing within 30 days after any change in the product formulation or recommended product usage directions, and shall also notify the Administrator within 30 days after the regulated entity learns of any information that would alter the emissions estimates submitted to the Administrator in support of the exemption application.

(g) If lower VOC content limits are promulgated for a product category through any subsequent rulemaking, all exemptions granted under this section for products in the product category shall no longer apply unless the innovative product has been demonstrated to have VOC emissions less than the applicable revised VOC content limits.

(h) If the Administrator determines that a consumer product for which an exemption has been granted no longer meets the VOC emissions criteria specified in paragraph (a) of this section for an innovative product, the Administrator may modify or revoke the exemption as necessary to assure that the product will meet these criteria. The Administrator will not modify or revoke an exemption without first affording the applicant an opportunity for a public hearing to determine if the exemption should be modified or revoked.

§ 59.205 Labeling.

(a) The container or package of each consumer product that is subject to this subpart shall clearly display the day, month, and year on which the product was manufactured, or a code indicating such date. The requirements of this provision shall not apply to products that are offered to consumers free of charge for the purposes of sampling the product.

(b) In addition, the container or package for each charcoal lighter material that is subject to this subpart shall be labeled according to the provisions of § 59.203(d)(2).

§ 59.206 Variances.

(a) Any regulated entity who cannot comply with the requirements of this subpart because of extraordinary circumstances beyond reasonable control may apply in writing to the Administrator for a variance. The variance application shall include the information specified in paragraph (a)(1) through (a)(3) of this section.

(1) The specific grounds upon which the variance is sought,

(2) The proposed date(s) by which compliance with the provisions of this subpart will be achieved. Such date(s) shall be no later than 5 years after the issuance of a variance; and

(3) A compliance plan detailing the method(s) by which compliance will be achieved.

(b) Upon receipt of a variance application containing the information required in paragraph (a) of this section, the Administrator will publish a notice of such application in the **Federal Register** and, if requested by any party, will hold a public hearing to determine whether, under what conditions, and to what extent, a variance from the requirements of this subpart is necessary and will be granted. If requested, a hearing will be held no later than 75 days after receipt of a variance application. Notice of the time and place of the hearing will be sent to the applicant by certified mail not less than 30 days prior to the hearing. At least 30 days prior to the hearing, the variance application will be made available to the public for inspection. Information submitted to the Administrator by a variance applicant may be claimed as confidential. The Administrator may consider such confidential information in reaching a decision on a variance application. Interested members of the public will be allowed a reasonable opportunity to testify at the hearing.

(c) The Administrator will grant a variance if the criteria specified in paragraphs (c)(1) and (c)(2) of this section are met.

(1) If there are circumstances beyond the reasonable control of the applicant so that complying with the provisions of this subpart by the compliance date would not be technologically or economically feasible, and

(2) The compliance plan proposed by the applicant can be implemented and will achieve compliance as expeditiously as possible.

(d) Any variance order will specify a final compliance date by which the requirements of this subpart will be achieved and increments of progress necessary to assure timely compliance.

(e) A variance shall cease to be effective upon failure of the regulated entity to comply with any term or condition of the variance.

(f) Upon the application of any party, the Administrator may review, and for good cause, modify or revoke a variance after holding a public hearing in accordance with the procedures described in paragraph (b) of this section.

§ 59.207 Test methods.

Each manufacturer or importer subject to the provisions of § 59.203(a) shall demonstrate compliance with the requirements of this subpart through calculation of the VOC content using records of the amounts of constituents used to manufacture the product.

§ 59.208 Charcoal lighter material testing protocol.

(a) Each manufacturer or importer of charcoal lighter material subject to this subpart shall demonstrate compliance with the applicable requirements of § 59.203(d) using the procedures specified in this section. Any lighter material that has received certification from California South Coast Air Quality Management District (SCAQMD) under their Rule 1174, Ignition Method Compliance Certification Testing Protocol, will be considered as having demonstrated compliance with the applicable requirements of this subpart using the procedures in this section.

(b) The manufacturer or importer shall obtain from the testing laboratory conducting the testing, a report of findings, including all raw data sheets/charts and laboratory analytical data. The testing must demonstrate that VOC emissions resulting from the ignition of the barbecue charcoal are, on average, less than or equal to 9 grams per start. The manufacturer or importer shall maintain the report of findings.

(c) When a charcoal lighter material does not fall within the testing guidelines of this protocol, the protocol may be modified following a determination by the Administrator that the modified protocol is an acceptable alternative to the method described in this section and written approval of the Administrator.

(d) *Meteorological and environmental criteria.* (1) Testing shall be conducted under the following conditions:

(i) Inlet combustion air temperature is 16 to 27 degrees Celsius (60 to 80

degrees Fahrenheit) with a relative humidity of 20 to 80 percent;

(ii) The charcoal and lighter material are stored 72 hours before testing in a location with a relative humidity between 45 and 65 percent, and a temperature between 18 and 24 degrees Celsius (65 to 75 degrees Fahrenheit); and

(iii) The outside wind speed, including gusts, may be no more than 16 kilometers per hour (10 miles per hour) if the test stack is exhausted outdoors, or, if the test stack is exhausted indoors, indoor air must be stagnant.

(2) Temperature and relative humidity of the combustion air shall be continuously monitored during the test. Temperature and relative humidity of the place where the charcoal and lighter material are stored prior to the test shall be monitored and recorded during the 72 hours immediately prior to the test. If the stack is exhausted outdoors, the continuous outdoor wind speed monitor shall be observed or recorded continuously during testing. If the wind speed monitor is manually observed rather than electronically recorded, the maximum wind speed observed during the test shall be recorded.

(e) *Definitions.* For the purposes of this test protocol, the following definitions shall apply:

(1) *Baseline VOC emissions (E^b)* means the 3.6 grams (0.008 pounds) per start of subject VOC mass emissions (calculated as CH_2) resulting from the ignition of charcoal by electric probe.

(2) *Emission limit for VOC* means 9 grams per start of resultant VOC emissions (E_r), (expressed as CH_2).

(3) *Equivalent* means equipment that has been demonstrated to meet or exceed the performance, design, and operation specifications of the prescribed equipment. A demonstration that equipment or a test method is a suitable alternative requires written approval from the Administrator prior to compliance testing, based on an evaluation of comparative performance specifications and/or actual performance test data.

(4) *Ignition* means the ready-to-cook condition of the charcoal determined by the temperature above the charcoal, the organic vapor concentration measured by the continuous organic emission monitor, and percent ash.

(5) *Ignition VOC emissions (e_i)*—means the grams (pounds) per start of total subject VOC mass emissions (expressed as CH_2) resulting from the ignition of charcoal by the lighter material undergoing evaluation, including both charcoal and lighter material emissions.

(6) *Labeled directions* means those directions affixed to the charcoal lighter material which specify:

(1) The amount of lighter material to use per kilogram (or pound) of charcoal, unless the lighter material is already impregnated or treated in the charcoal;

(2) How to use or apply the lighter material; and

(3) How and when to light the lighter material.

(7) *Percent ash* means a qualitative observation of the ratio of visible charcoal surface area ignited (grayish/white ash) to total charcoal surface area times 100.

(8) *Reference VOC emissions (E_{ep})*—means the grams (pounds) per start of subject VOC mass emissions (calculated as CH_2) resulting from the ignition of charcoal by the reference electric probe during the testing.

(9) *Resultant VOC emissions (E_r)*—means the ignition VOC emission (E_i) less the reference VOC emissions (E_{ep}) plus baseline emissions (E_b).

(10) *Start* means a 25-minute period commencing from the instant that emissions may be released from the lighter material, either by evaporation or combustion, and further characterized such that by the end of said 25-minute period, ignition is achieved.

(f) *Test structure, equipment specifications, and reference materials.*

(1) The test structure is to be located in a building or fabricated total enclosure (i.e., with enclosed sides and top). The enclosure shall be such that there are no constant or intermittent air flows within it that cause fluctuations in the stack velocity and/or disruptions of air flow patterns within the test chamber containing the reference grill.

(WARNING: If the stack is vented into the building enclosure, caution must be taken to avoid carbon monoxide poisoning and the reduction of oxygen.)

(2) Test structure components. The following test structure components, as shown in figures 1 and 2 of Appendix A of this subpart, shall be used:

(i) Test chamber—Standard large, prefabricated fireplace manufactured by Marco[®],¹ Model No. C41CF, with flue damper removed; or a fabricated structure with the same dimensions. Spacers are required at the rear of the test chamber to ensure a constant 5-centimeter (2-inch) distance between the reference grill and the rear wall of the test chamber.

(ii) Test stack—25-centimeter (10-inch) diameter galvanized steel ducting with velocity traverse port holes located

approximately 8 diameters downstream from the stack outlet of the fireplace chamber and sampling ports located approximately 2½ diameters downstream of the velocity traverse ports.

(iii) Fan—25-centimeter (10-inch) diameter axial fan (duct fan) capable of maintaining an air velocity of 140 ± 9 meters per minute (450 ± 30 feet per minute) and located in the stack approximately 3 diameters downstream of the sampling ports.

(iv) Test stack insulation—The stack shall be insulated with fiberglass blanket insulation (or equivalent) with a minimum R-value of 6.4, that totally surrounds the stack from the top of the fireplace to the level of the blower which minimizes temperature gradients in the stack and prevents hydrocarbons from condensing on the stack wall.

(v) Stack mounts—Supports for fixing in position the stack velocity measurement device for measuring reference point velocity readings and the continuous organic emission monitor probe/meter.

(vi) Blower speed control—A rheostat for controlling voltage to the fan.

(3) Test equipment and materials. The following test equipment and materials shall be used:

(i) Continuous recording device—A YEW[®] model 4088 dot matrix, roster scanning chart recorder, Omega strip recorder with a Strawberry Tree Data Acquisition System, or equivalent, shall be used to continuously (6-second cycle) record temperatures, velocity, and continuous organic emission monitor output signals. The recording may be done manually, recording temperature using a digital potentiometer (20-second intervals), reference point velocity with a Pitot tube (20-second intervals), and continuous organic emission monitor readings with the analyzer's meter (10-second intervals).

(ii) Grill temperature probe—A type "K" thermocouple silver soldered to a 7.6 centimeter (3-inch) square brass plate 0.083-centimeter (0.033 inches) thick painted flat black using high temperature (> 370 degrees Celsius [> 700 degrees Fahrenheit]) paint; set on an adjustable stand to maintain 11 centimeters (4.5 inches) above the maximum height of the briquette pile and made such that it can be removed and replaced within the chamber.

(iii) Stack temperature probe—The Kurz[®] digital air velocity meter or a type "K" thermocouple shall be used.

(iv) Stack velocity measurement device—The velocity in meters (feet) per minute for the reference point using a Kurz[®] digital air velocity meter, Davis[®]

¹Note: Mention of trade names or specific products does not constitute endorsement by the EPA.

DTA 4000 vane anemometer, or equivalent to method 1A of 40 CFR part 60, appendix A.

(v) Continuous organic emissions monitor—Century® Model 128 Organic Vapor Analyzer, Ralfisch® RS55 total hydrocarbon analyzer, or equivalent, with response in parts per million (ranges 0 to 10 parts per million, 0 to 100 parts per million, 0 to 1,000 parts per million).

(vi) Temperature and humidity monitor—A chart recorder type with humidity accuracy of ± 3 percent from 15 to 85 percent.

(vii) Wind speed and direction monitor—A wind speed and direction device meeting a tolerance of ± 10 percent.

(viii) Analytical balance—An electronic scale with a resolution of ± 2 grams.

(ix) Charcoal stacking ring—Rigid metal cylinder 21.6 centimeters (8.5 inches) in diameter with indicators to determine that the pile of briquettes does not exceed 12.7 centimeters (5 inches) in height.

(x) Camera—To document ignition condition of charcoal at the end of each start.

(xi) Particulate filter—Nupro® inline filter, Catalog Number SS-4FW-2 with 0.64 centimeter ($\frac{1}{4}$ -inch) Swagelok inlet and outlet or equivalent.

(xii) Barbecue Grill—The charcoal shall be ignited in a Weber® “Go Anywhere” barbecue grill (Model Number #121001), 39.4 centimeters \times 24 centimeters \times 12.7 centimeters (15.5 inch \times 9.5 inch \times 5.0 inch) with the grate 4.4 centimeters (1.75 inches) above the bottom of the grill, or another grill that meets these specifications. The grill shall be set on its bottom when placed in the test chamber and all grill air vents shall be in full open position.

(xiii) Electric probe—A 600-watt electric probe shall be used for electric probe ignition tests.

(xiv) Untreated charcoal—The laboratory conducting the testing shall purchase “off the shelf” untreated charcoal from a retail outlet. Charcoal shall not be provided by the manufacturer of the charcoal lighter material to be tested or by the charcoal manufacturer. The charcoal to be used is Kingsford® “Original Charcoal Briquets.” All untreated charcoal used in the certification testing of a single ignition source is to come from the same lot as indicated by the number printed on the bag.

(xv) Treated or impregnated charcoal—If the charcoal lighter material to be tested is a substance used to treat or impregnate charcoal, the regulated entity shall provide to the

laboratory conducting the tests a sample of impregnated charcoal. The sample shall be impregnated or treated barbecue charcoal that is ignited either outside of package or ignited by the package. If commercially available, the independent testing laboratory conducting the test shall purchase “off the shelf” from a retail outlet.

(g) *Sampling and analytical methods.*

(1) Gas volumetric flow rate. Conduct a full velocity traverse using the stack velocity measurement device as shown in figure 3 of this Appendix A to this Subpart, or use Method 1A of 40 CFR part 60, appendix A. Continuously record a velocity reference point reading during each test run using a chart recorder or once every 20 seconds if using Method 1A. Calculate the volumetric flow rate using the gas velocity, moisture content, and the stack cross-sectional area. For the purposes of this protocol, the static pressure shall be assumed to be atmospheric, the molar density correction factor in the stack to be 1.0, and the moisture content to be 2 percent.

(2) Integrated VOC sample. Collect integrated VOC gas samples at the sampling port in the exhaust stack using a 40 CFR part 60, appendix A, Method 25 Total Combustion Analysis (TCA) sampling apparatus consisting of two evacuated 9-liter tanks, each equipped with flow controllers, vacuum gauges, and probes, as shown in figure 4 of Appendix A of this Subpart. Use 40 CFR part 60, appendix A, Method 25, SCAQMD Method 25.1 (incorporated by reference—§ 59.213 of this subpart), or equivalent, for analysis. Carbon monoxide, carbon dioxide, methane, and non-methane organic carbon are analyzed by the TCA and TCA/Flame Ionization Detector (FID) methods. Oxygen content is determined by gas chromatography using a thermal conductivity detector. Clean particulate filters between use by heating to 760 degrees Celsius (1400 degrees Fahrenheit) while using compressed air as a carrier for cleaning and purging.

(3) Continuous organic emissions monitor. A continuous organic emissions monitor which uses a continuous FID shall be used for each test run to measure the real time organic concentration of the exhaust as methane. Record the emission monitor response in parts per million continuously during the sampling period using a chart recorder or at least once every 10 seconds. The VOC analyzer shall be operated as prescribed in the manufacturer's directions unless otherwise noted in this protocol.

(h) *Pretest procedure.* (1) Charcoal lighter material—charcoal. Before each

test run, remove charcoal from a sealed bag that has been stored for at least 72 hours in a humidity and temperature controlled room which satisfies the requirements of paragraph (d)(1) of this section and weight out 0.9 kilograms (2 pounds) of charcoal briquettes, to the nearest whole briquette over 0.9 kilograms (2 pounds), of uniform shape with no broken pieces using an analytical balance. Reseal the bag. Charcoal must be ignited within 10 minutes after removal from bag. A sealed or resealed bag of charcoal cannot be stored at the test site for greater than 45 minutes. It must be returned to a humidity and temperature controlled room from 72 hours. The lighter material must be purchased, stored, weighed, and handled the same as the barbecue charcoal.

(i) For the reference VOC emission tests using an electric probe, place a single layer of charcoal, slightly larger than the area/circle of the electric probe heating element, onto the grate. Place the heating element on top of this first layer and cover the heating element with the remaining charcoal briquettes.

(ii) For the ignition VOC emissions tests, arrange the briquettes on the barbecue grate in the manner specified by the ignition manufacturer's directions. If these manufacturer's directions do not specify a stacking arrangement for the briquettes, randomly stack the briquettes in a pile using the stacking ring described in paragraph (f)(3)(ix) of this section.

(2) Charcoal lighter material—or impregnated charcoal. Store, handle, weigh, and stack barbecue charcoal that is designed to be lit without the packaging, the same as in paragraph (h)(1) of this section. For those products which require both the package and charcoal be lit, weigh the whole package—do not remove charcoal. Weigh an empty package (not the same one to be used during the test).

Subtract the package weight from the overall weight of the package and charcoal. The full package and empty package must be stored, handled, and weighed the same as in paragraph (h)(1) of this section. If the difference (the charcoal weight) is between 0.7 to 1.4 kilograms (1.5 to 3.0 pounds), the test may proceed. The emissions measured (E) in Equation 5 of paragraph (k)(7) of this section must be adjusted to a 0.9 kilogram (2-pound) charge. Place packaged barbecue charcoal on the grate in the manner specified by the manufacturer's directions.

(3) Initial meteorological and environmental criteria in paragraph (d) shall be complied with.

(4) The stack velocity must be set before each day of testing at 140 ± 9 meters per minute (450 ± 30 feet per minute) by performing a velocity traverse as specified in paragraph (g)(1) of this section. The velocity will be attained by adjusting the axial fan speed using a rheostat.

(5) The fireplace shall be conditioned at the start of each day before sampling tests by using a grill ignited by the electric probe. If a time period of over 60 minutes between sampling test runs occur, the condition step must be repeated.

(6) Before each test run, leak check the continuous organic emissions monitor by blocking the flow to the probe. Allow the instrument to warm up for the duration specified by the manufacturer's directions. Select the 0 to 100 parts per million range. Check the battery level and hydrogen pressure. Zero with hydrocarbon-free air (<0.1 parts per million hydrocarbons as methane) span with 90 parts per million methane in ultra pure air. Zero and span another instrument selection range if needed for test purposes.

(7) Before the testing program begins, establish a point of average concentration of organics in the stack by using a continuous organic emissions monitor and a grill with charcoal ignited by the electric probe 40 minutes after initial release of emissions. Record the continuous organic emissions monitor traverse data.

(8) Prepare the integrated VOC sampling equipment and perform the required leak checks. Fit the probes with nozzles housing two micron particulate filters. Insert the probes and nozzles into the sampling port to draw a sample of the exhaust gas from the point of average organic concentration as determined from the continuous organic emissions monitor sample traverse described in paragraph (h)(4) of this section. Also, position the nozzles such that they point downstream in the stack. Obtain the samples concurrently and continuously over the test run.

(9) Insert the continuous organic emissions monitor probe into the sampling port to draw a sample of the exhaust gas from the point of average organic concentration as determined from the continuous organic emissions monitor sample traverse described in paragraph (h)(7) of this section.

(i) *Test procedure.* The labeled directions, as defined in paragraph (e) of this section, shall be followed throughout the course of the testing. In cases where the directions are incompatible with this protocol, circumvent the intent of this protocol, or are unclear (subject to different

interpretations) and inadequate, the Administrator must be informed in writing of the nature of the conflict, as well as the proposed resolution, prior to commencing testing. When the labeled directions for a charcoal lighter material do not fall within the testing guidelines of this protocol, the protocol may only be modified upon written approval of the Administrator.

(1) Place the bottom of the barbecue grill on the floor of the fireplace, 5 centimeters (2 inches) from the rear wall. Ignite charcoal as specified by manufacturer's labeled directions.

(2) For electric probe ignition, carefully remove probe without disturbing charcoal after 10 minutes of operation.

(3) For fluid ignition, simultaneously match light fluid on charcoal and fluid that has fallen to the bottom of the grill.

(4) Place the grill temperature probe 11 centimeters (4.5 inches) above the top of the charcoal immediately after the charcoal lighter material flame goes out, or before, if the lighter material does not flame.

(5) Conduct at least six test runs for both the electric probe ignition and for the lighter material being evaluated. Alternate these lighter material for all 12 runs. All runs must be conducted over 3 consecutive days or less.

Alternatively, baseline emissions testing (using the electric probe) may be applied to other test runs provided the test runs occur within 4 months of the baseline testing. Integrated VOC sampling and continuous organic emissions monitoring begin for each test run when the charcoal lighter material and/or materials start to generate/release organics (this will be the time of pouring for lighter fluids and the time of ignition for most other ignition sources). Option: Because the manufacturer of treated or impregnated charcoal supplies both the lighter material and barbecue charcoal, they may apply the 9 grams VOC per start emission limit as an absolute value without an adjustment for the VOC emissions from an electric probe.

(6) Sampling ends for each test run when all the following conditions are met:

(i) The temperature 11 centimeters (4.5 inches) above the maximum height of the briquette pile, using the grill temperature probe described in paragraph (d)(3)(ii) of this section, is at least 93 degrees Celsius (200 degrees Fahrenheit);

(ii) The continuous organic emissions monitor is reading below 30 parts per million for at least 2 minutes;

(iii) The test sampling has continued for 25 minutes (but not more) and

(iv) The charcoal surface is 70 percent covered with ash (to be documented with photograph on top and 60 degrees above the horizon).

(7) During the sampling test runs, temperatures (excluding ambient) and continuous organic emission monitor readings shall be recorded and shall comply with the requirements in paragraph (b) of this section. Humidity, wind speed, and ambient temperature readings shall be monitored and shall comply with the requirements in paragraph (b) of this section.

(8) Collect one blank sample for VOC and one ambient air sample during one run of each day per paragraph (k) of this section.

(J) *Post-run procedure.* (1) Record temperatures (including ambient), humidity, wind speed, and continuous organic emissions monitor reading.

(2) Record the drift using zero and span gases. Leak check and span the continuous organic emissions monitor as described in paragraph (h)(6) of this section for the next run.

(3) Leak check and disassemble the integrated VOC sampling equipment as described in Method 25 of 40 CFR part 60, appendix A or SCAQMD Method 25.1 (incorporated by reference—see § 59.213 of this subpart), or equivalent.

(4) Thoroughly clean grill surfaces of all residue before conducting next ignition run.

(k) *Calculations.* Calculations shall be carried out to at least one significant digit beyond that of the acquired data, and then rounded off after final calculation to two significant digits for each run. All rounding off of numbers should be in accordance with the American Society for Testing and Materials (ASTM) E 380-93, Standard Practice for Use of the SI International System of Units, procedures (incorporated by reference—see § 59.213 of this subpart).

(1) Calculate the average stack reference point temperature during sampling (t_{sr}).

(2) Calculate the average measured velocities (in meters per minute [feet per minute]): Traverse (u), traverse reference point (u_{tr}), and reference point during sampling (u_{sr}).

(3) Calculate the corrected average sampling velocity (u_s) by applying Equation 2:

$$u_s = u_{sr} \frac{u_t}{u_{tr}} \quad \text{Equation 2}$$

(4) Calculate the average flow rate (Q_s) in cubic meters per minute (cubic feet per minute) by applying Equation 3:

$$Q_s = u_s A \quad \text{Equation 3}$$

Where

A=Duct cross-sectional area, (square meters [square feet])
 (5) Correct the flow rate to dry standard conditions (Q_{ds}) by applying Equation 4. Assume the static pressure to be atmospheric and the molar density correction factor to be 1.0

$$Q_{ds} = \frac{T_s}{(T_s + t_{sr})} (1 - H) Q_s \quad \text{Equation 4}$$

Where

$T_s=289$ K (520 R)
 $T_s=273$ K (460 R)
 H=Percent moisture-100
 =0.02

(6) Calculate the average total gaseous non-methane organic carbon for each duplicate sample run analyzed.

(7) Calculate the grams (pounds) of VOC as CH_2 emitted per start (normalized to 0.9 kilograms [2 pounds] of charcoal) for each run using Equation 5:

$$E = \frac{A}{B} * \frac{C}{10^6} * D * d * \frac{N}{M} Q_{ds} \quad \text{Equation 5}$$

Where

E=Emissions of VOC per start for each test run (grams VOC/start [pounds VOC/start])
 A=Hydrocarbon molecular weight =14.0268 grams per gram-mole (14.0268 pounds per pound-mole)
 B=Carbon number =1
 C=Average concentration for each duplicate run of total gaseous nonmethane organic compounds as CO_2 (parts per million, from lab analysis sheet)
 D=Sampling duration =25 minutes
 d=Molar density of gas at standard conditions =42.33 gram-mole per cubic meter (0.0026353 pound-mole per cubic foot)
 N=Normalized mass (0.9 kilograms [2 pounds])
 M=Mass of charge (kilograms [pounds])

(8) Calculate the average VOC emissions for each lighter material tested. Identify and discard statistical outliers. Note a minimum of five valid results are required for a determination. This procedure for eliminating an outlier may only be performed once for each lighter material tested.

(9) Using Equation 6, calculate the resultant VOC emissions per start (E_r) and determine if it is less than or equal to the 9 grams VOC per start emission limit.

$$E_r = e_i - e_{ep} + E_b \quad \text{Equation 6}$$

Where

e_i =Average emissions of VOC per start from the charcoal lighter material being evaluated (grams VOC/start [pounds VOC/start] expressed as CH_2)
 e_{ep} =Average reference VOC emissions per start from the ignition by electric probe (grams VOC/start [pounds VOC/start] expressed as CH_2)
 =0 grams VOC/start (0 pounds VOC/start) for treated or impregnated charcoal
 E_b =Standard baseline VOC emissions per start from the ignition by electric probe (expressed as CH_2)
 =0 grams VOC/start (0 pounds VOC/start) for treated or impregnated charcoal
 =3.6 grams VOC/start (0.008 pounds VOC/start) for all other charcoal lighter material

(1) *Recordkeeping.* A record of the following charcoal lighter material compliance test information shall be kept for at least 5 years:

- (1) Real time temperature and continuous organic emissions monitor readings from continuous chart recorder and/or manual reading of temperatures and the continuous organic emissions monitor output.
- (2) A description of quality assurance/quality control (QA/QC) procedures followed for all measuring equipment and calibration test data.
- (3) A description of QA/QC procedures followed for all sampling and analysis equipment and calibration test data.
- (4) Time and quantity of blanks and ambient air samples.
- (5) Chain of custody for samples.
- (6) Labeled directions.
- (7) Field notes and data sheets.
- (8) Calculation/averaging sheets/printouts.
- (9) Sample (in its normal package from the same lot) of barbecue charcoal and lighter material used for testing.
- (10) Formulation of lighter material tested (indicate if the information is to be handled confidentially).
- (11) Photographs documenting charcoal surface ash coverage.
- (m) *Quality Assurance/Quality Control (QA/QC) Requirements.* The QA/QC guidelines in the EPA's Quality Assistance Handbook (EPA 600.4-77-027b) shall be followed. In addition, the following procedures shall be used:
 - (1) A blank sample for VOC shall be performed once each day, during the start period of one of the lighter materials, using the integrated VOC sampling apparatus.
 - (2) An ambient air sample for VOC shall be taken once each day, during the

start period of one of the lighter materials, using the integrated VOC sampling apparatus with Nupro® 2 micron filters.

(3) Traceability certificates shall be provided for all calibration gases used for the continuous organic emissions monitor and integrated VOC analysis.

(4) Grill temperature probe shall be calibrated using the procedures in ASTM Method E220-86 (incorporated by reference as specified in United States § 59.213).

(5) Supply documentation for place of purchase (or origin if experimental) and chain of custody for lighter material tested. Documentation to be included for both treated and impregnated charcoal.

(6) Supply documentation for place of purchase and chain of custody for untreated charcoal.

§ 59.209 Recordkeeping and reporting requirements.

(a) The distributor that is named on the product label shall maintain the records specified in paragraphs (a)(1) and (a)(2) of this section, unless the manufacturer or importer has submitted to the Administrator a written certification that the manufacturer or importer will maintain the records for the distributor in accordance with paragraph (a)(3) of this section. If no distributor is named on the label, the manufacturer or importer must maintain the specified records. The records must be retained for at least 3 years and must be in a form suitable and readily available for inspection and review.

- (1) Records or formulations being manufactured or imported on or after December 10, 1998 for all consumer products subject to § 59.213(a), or December 10, 1999 for all consumer products subject to § 59.203(c) and
- (2) Accurate records for each batch of production, starting on December 10, 1998 for all consumer products subject to § 59.203(a) or December 10, 1999 for all consumer products subject to § 59.203(c), of the weight-percent and chemical composition of the individual product constituents.

(3) By providing this written certification to the Administrator, the certifying manufacturer accepts responsibility for compliance with the recordkeeping requirements in paragraphs (a)(1) and (a)(2) of this section with respect to any products covered by the written certification. Failure to maintain the required records may result in enforcement action by the EPA against the certifying manufacturer in accordance with the enforcement provisions applicable to violations of these provisions by regulated entities.

The certifying manufacturer may revoke the written certification by sending a written statement to the Administrator and the regulated entity giving at least 90 days notice that the certifying manufacturer is rescinding acceptance of responsibility for compliance with the recordkeeping requirements listed in this paragraph. Upon expiration of the notice period, the regulated entity must assume responsibility for maintaining the records specified in this paragraph. Written certifications and revocation statements, to the Administrator from the certifying manufacturer shall be signed by the responsible official of the certifying manufacturer, provide the name and address of the certifying manufacturer, and be sent to the appropriate EPA Regional Office at the addresses listed in § 59.210 of this subpart. Such written certifications are not transferable by the manufacturer.

(b) If requested by the Administrator, product VOC content must be demonstrated to the Administrator's satisfaction to comply with the VOC content limits presented in § 59.203(a).

(c) Each manufacturer or importer subject to the provisions of § 59.203(d) shall maintain records specified in either paragraph (c)(1) or (c)(2) of this section for each charcoal lighter material.

(1) Test report from each certification test performed as specified in § 59.208(b) and all information and data specified in § 59.208(l); or

(2) Records of emission testing, which was performed by a method determined by the Administrator to be an acceptable alternative to that described in § 59.208, previously submitted to a State or local regulatory agency.

(d) The distributor that is named on the product label, or if no distributor is named on the label, the manufacturer or importer, shall submit by the applicable compliance date, or within 30 days after becoming a regulated entity, a one-time Initial Notification Report including the information specified in paragraphs (d)(1) through (d)(5) of this section.

(1) Company name;

(2) Name, title, phone number, address, and signature or certifying company official;

(3) A list of product categories and subcategories subject to § 59.203 for which the company is currently the regulated entity;

(4) A description of date coding systems, clearly explaining how the date of manufacture is marked on each sales unit of subject consumer products; and

(5) The name and location of the designated recordkeeping agent, if the records specified in paragraphs (a)(1) and (a)(2) are to be maintained by the manufacturer.

(e) If a regulated entity changes the date coding system reported according to paragraph (d)(4) of this section, the regulated entity shall notify the Administrator of such changes within 30 days following the change.

(f) If requested by the Administrator, the following information shall be made available within 30 days after receiving the request:

(1) Location of facility(ies) manufacturing, importing, or distributing subject consumer products;

(2) A list of product categories and subcategories, as found in tables 1 and 2 of this subpart, that are manufactured, imported, or distributed at each facility; and

(3) Location where VOC content records are kept for each subject consumer product.

(g) Each manufacturer or importer subject to the innovative product provisions in § 49.204 shall submit notifications as indicated in § 59.204(d) and (e).

§ 59.210 Addresses of EPA Regional Offices.

All requests, reports, submittals, and other communications to the Administrator pursuant to this regulation shall be submitted to the Regional Office of the EPA which serves the State or territory in which the corporate headquarters of the regulated entity resides. These areas are indicated in the following list of EPA Regional Offices:

EPA Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont), Director, Office of Ecosystem Protection, J.F.K. Federal Building, Boston, MA 02203-2211.

EPA Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Division of Environmental Planning and Protection, 290 Broadway, New York, NY 10007.

EPA Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air, Radiation, and Toxics Division, 841 Chestnut Building, Philadelphia, PA 19107.

EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee), Director, Air, Pesticides, and Toxics Management Division, 61 Forsyth Street, Atlanta, GA 30303.

EPA Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, 77 West Jackson Blvd., Chicago, IL 60604-3507.

EPA Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas), Director, Multimedia Planning and Permitting Division, 1445 Ross Avenue, Dallas, TX 75202-2733.

EPA Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air, RCRA, and Toxics Division, 726 Minnesota Avenue, Kansas City, KS 66101.

EPA Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah,

Wyoming), Director, Office of Pollution Prevention, State, and Tribal Assistance, 999 18th Street, Suite 500, Denver, Colorado 80202-2466.

EPA Region IX (American Samoa, Arizona, California, Guam, Hawaii, Nevada) Director, Air Divisions, 75 Hawthorne Street, San Francisco, CA 94105.

EPA Region X (Alaska, Oregon, Idaho, Washington), Director, Office of Air Quality, 1200 Sixth Avenue, Seattle, WA 98101.

§ 59.211 State authority.

(a) The provisions in this regulation shall not be construed in any manner to preclude any State or political subdivision thereof from:

(1) Adopting and enforcing any emission standard or limitation applicable to a regulated entity.

(2) Requiring the regulated entity to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of a facility for manufacturing a consumer product.

(b) [Reserved]

§ 59.212 Circumvention.

No regulated entity subject to these standards shall alter, destroy, or falsify any record or report to conceal what would otherwise be noncompliance with these standards. Such concealment includes, but is not limited to refusing to provide the Administrator access to all required records and date-coding information, altering the percent VOC content of a product batch, or altering the results of any required performance tests.

§ 59.213 Incorporation by reference.

(a) The materials listed in this section are incorporated by reference in the paragraphs noted in § 59.207. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any changes in these materials will be published in the **Federal Register**. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC 20408, at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M Street, SW., Washington, DC 20460, and at the EPA Library (MD-35), U.S. EPA, Research Triangle Park, NC 27711.

(b) The materials listed below are available for purchase from at least one of the following addresses: American Society for Testing and Materials

(ASTM), 1916 Race Street, Philadelphia, PA, 19103; SCAQMD Subscription Services, P.O. Box 4932; 21865 Copley Drive, Diamond Bar, CA 91765-0932; or University Microfilms International, 300 North Zeeb Road, Ann Arbor MI, 48106.

(1) ASTM Method E220-86 Standard Method for Calibration of Thermocouples by Comparisons Techniques, incorporation by reference (IBR) approved for § 59.208(m)(4).

(2) ASTM Method E380-82 Metric Practice, IBR approved for § 59.208(k).

(3) SCAQMD Method 25.1, March 1989 Determination of Total Gaseous Non-Methane Organic Emissions as Carbon (amended February 26, 1991) IBR approved for § 59.208(g)(2).

§ 59.214 Availability of information and confidentiality

(a) Availability of information. Specific reports or records required by this subpart are not available to the

public. The Administrator will, upon request, provide information as to the compliance status of a product or regulated entity.

(b) Confidentiality. All confidential business information entitled to protection under section 114(c) of the CAA that must be submitted or maintained by a regulated entity pursuant to this section shall be treated in accordance with 40 CFR part 2, Subpart B.

TABLE 1 TO SUBPART C.—VOC CONTENT LIMITS BY PRODUCT CATEGORY

Product category	VOC content limit (weight-percent VOC)
Air fresheners:	
Single-phase	70
Double-phase	30
Liquids/pump sprays	18
Solids/gels	3
Automotive windshield washer fluid	35
Bathroom and tile cleaners:	
Aerosols	7
All other forms	5
Carburetor and choke cleaners	75
Cooking sprays—aerosol	18
Dusting aids:	
Aerosols	35
All other forms	7
Engine degreasers	75
Fabric protectants	75
Floor polishes/waxes:	
Products for flexible flooring materials	7
Products for nonresilient flooring	10
Wood floor wax	90
Furniture maintenance products-aerosol	25
General purpose cleaners	10
Glass cleaners:	
Aerosols	12
All other forms	8
Hairsprays	80
Hair mousses	16
Hair Styling gels	6
Household adhesives:	
Aerosols	75
Contact	80
Construction and panel	40
General purpose	10
Structural waterproof	15
Insecticides:	
Crawling bug	40
Flea and tick	25
Flying bug	35
Foggers	45
Lawn and Garden	20
Laundry prewash:	
Aerosols/solids	22
All other forms	5
Laundry starch products	5
Nail polish removers	85
Oven cleaners:	
Aerosols/pump	8
Liquids	5
Shaving creams	5

TABLE 2 TO SUBPART C.—HVOC¹ CONTENT LIMITS FOR UNDERARM DEODORANTS AND UNDERARM ANTIPERSPIRANTS

Product category	Percent HVOC content limit (weight-per-cent HVOC)
Underarm antiperspirants— aerosol	60
Underarm deodorants— aerosol	20

¹ High-volatility organic compound (HVOC) are VOC with vapor pressure greater than 80 millimeters of mercury at 20 degrees Celsius.

BILLING CODE 6560-50-M

Appendix A to Subpart C—Figures

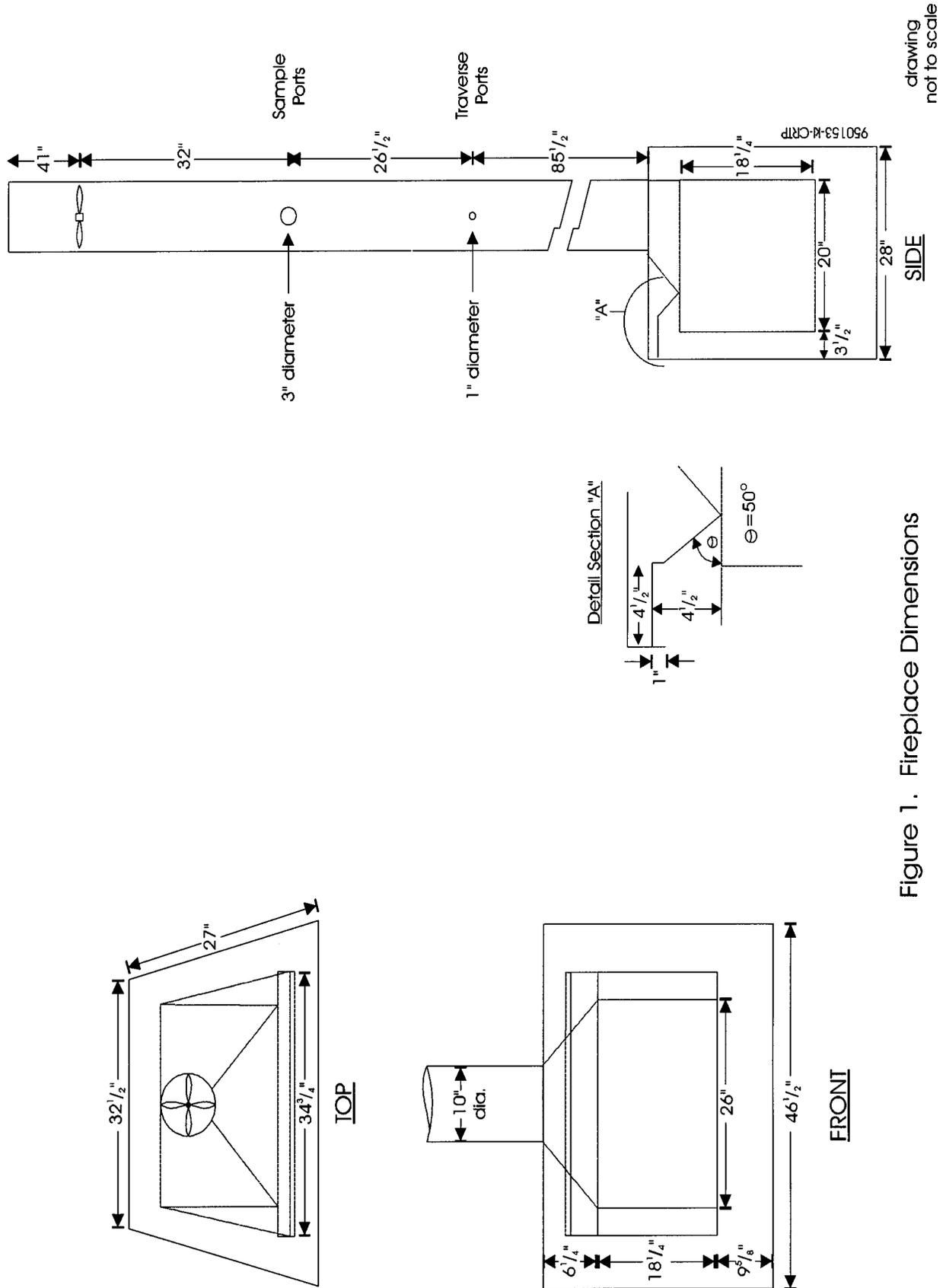


Figure 1. Fireplace Dimensions

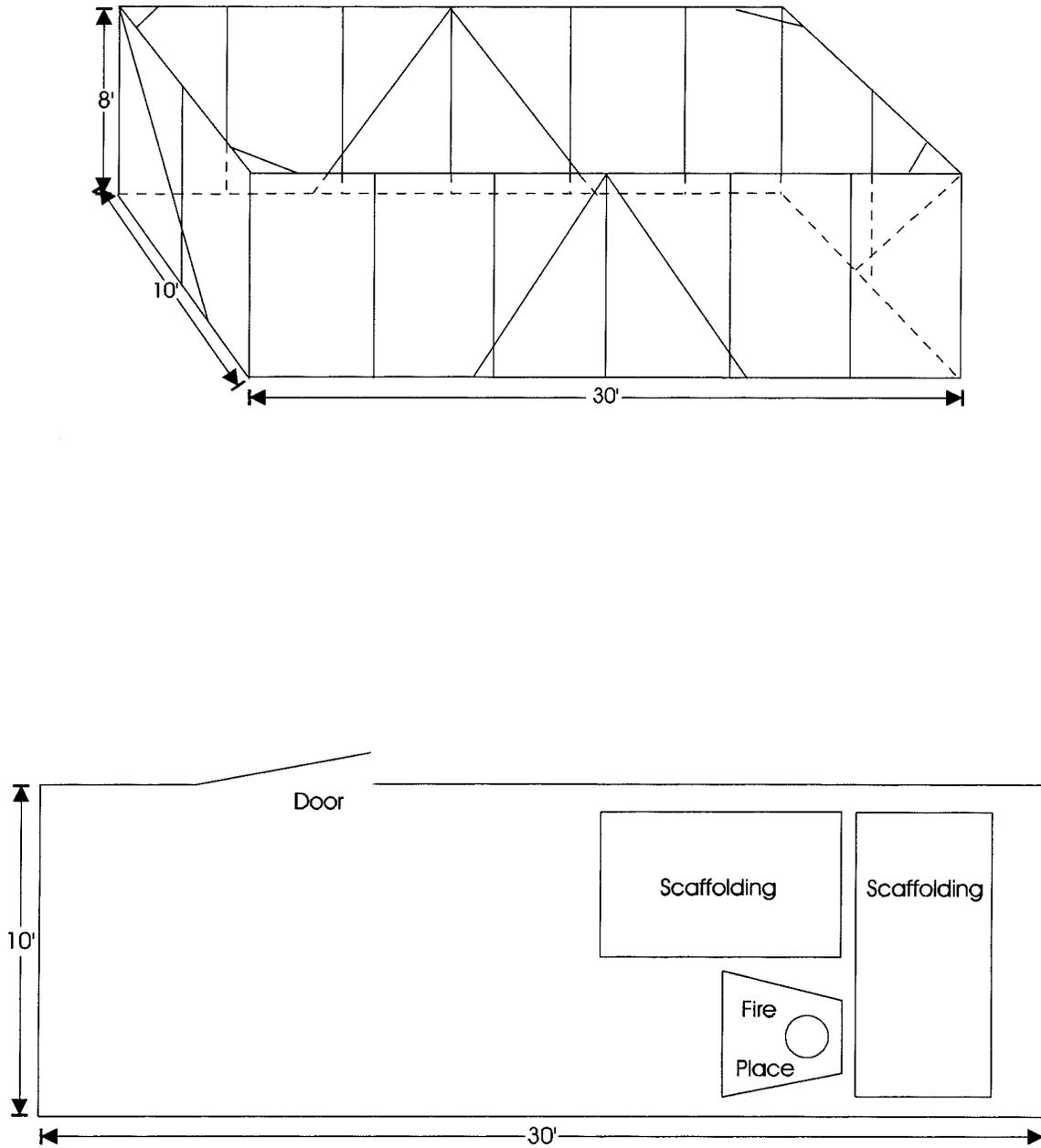


Figure 2. Suggested Enclosure Design

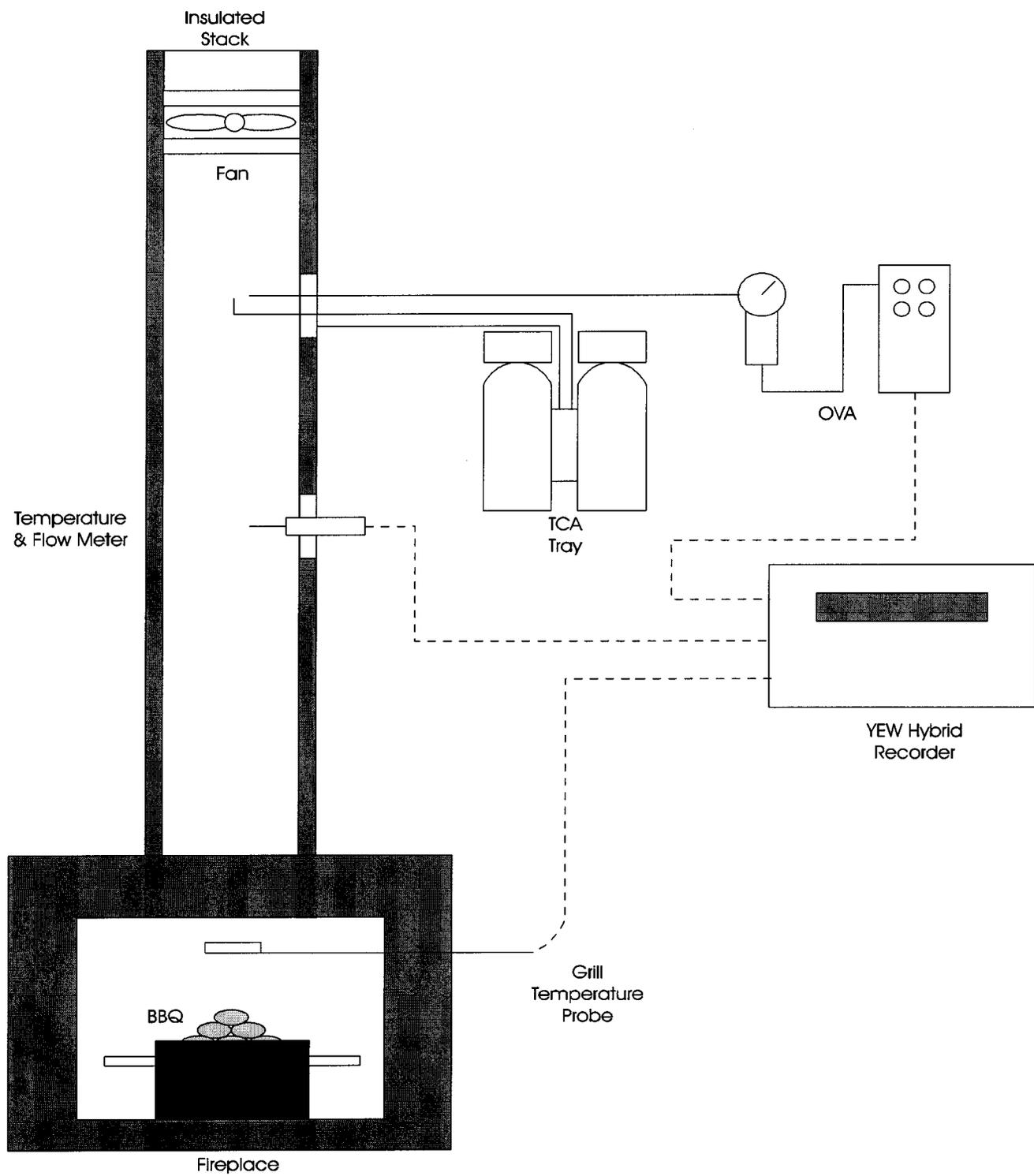
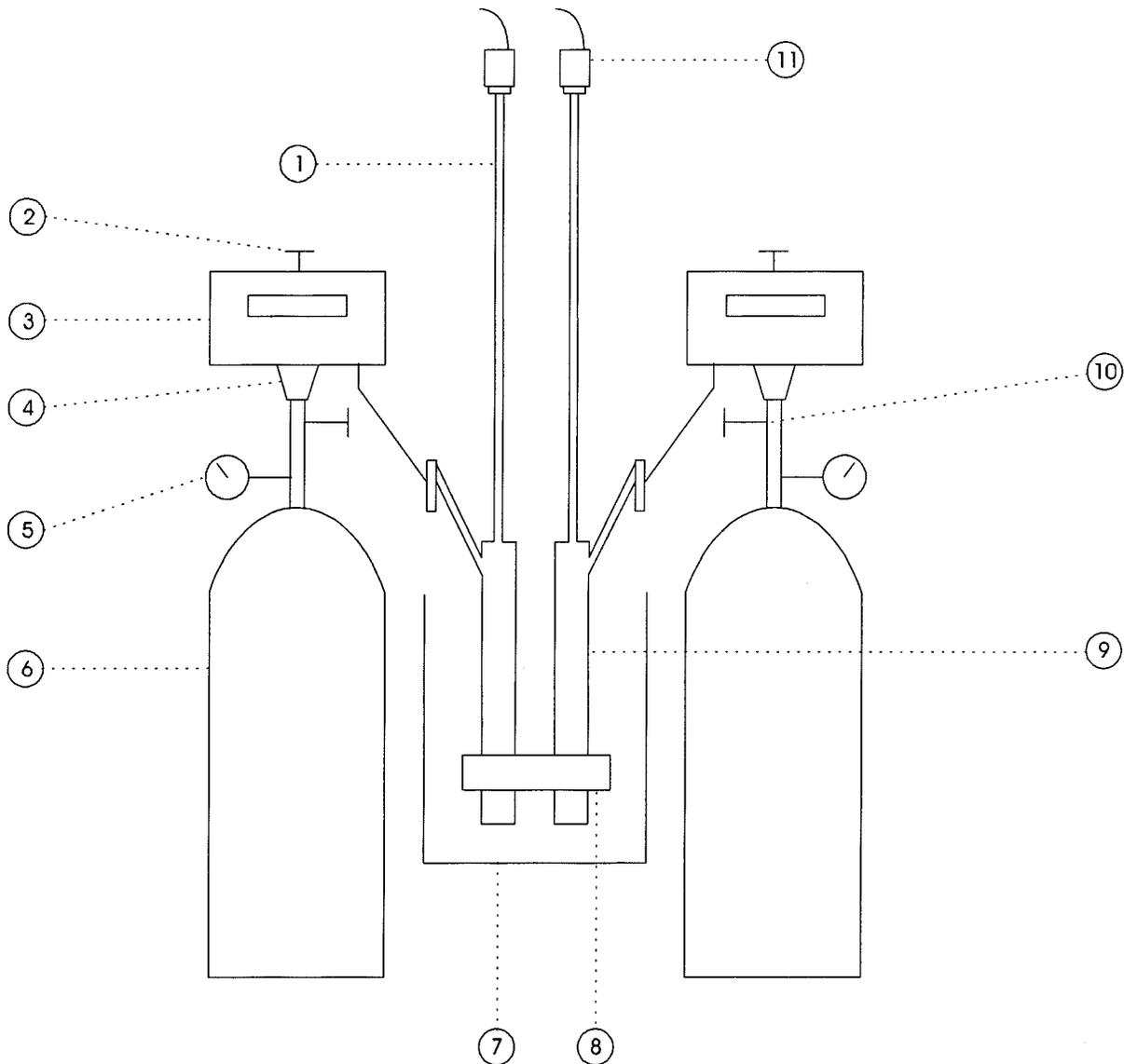


Figure 3. Sampling Apparatus Set-up with Chart Recorder



- | | |
|--|-----------------------------------|
| 1. Sampling Probe | 7. Condensate Trap Container |
| 2. Flow Rate Control Valve | 8. Heat Sink Trap |
| 3. Minihelic Differential Pressure Gauge | 9. Condensate Trap |
| 4. Vacuum Regulator | 10. Sample Flow Valve |
| 5. Vacuum Gauge | 11. Two Micron Particulate Filter |
| 6. Evacuated Tank | |

Figure 4. Sampling Apparatus for Organics

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