



## Fast Track Proposed Regulation Agency Background Document

<b>Agency name</b>	State Air Pollution Control Board
<b>Virginia Administrative Code (VAC) citation</b>	9VAC5-10 (General Definitions)
<b>Regulation title</b>	Regulations for the Control and Abatement of Air Pollution
<b>Action title</b>	Definition of Volatile Organic Compound (Rev. H13)
<b>Date this document prepared</b>	December 9, 2013

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 14 (2010) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

### Brief summary

*Please provide a brief summary (no more than 2 short paragraphs) of the proposed new regulation, proposed amendments to the existing regulation, or the regulation proposed to be repealed. Alert the reader to all substantive matters or changes.*

The general definitions of 9VAC5-10 impose no regulatory requirements in and of themselves but provide support to other provisions of the Regulations for the Control and Abatement of Air Pollution. The U.S. Environmental Protection Agency (EPA) has revised the definition of volatile organic compound (VOC) to add *trans* 1-chloro-3,3,3-trifluoroprop-1-ene (also known as Solstice™ 1233zd(E)) and 2,3,3,3-tetrafluoropropene (also known as HFO-1234yf) to the list of compounds excluded from the definition of VOC on the basis that these compounds make a negligible contribution to tropospheric ozone formation. The state definition must now be revised accordingly.

### Statement of final agency action

*Please provide a statement of the final action taken by the agency including (1) the date the action was taken, (2) the name of the agency taking the action, and (3) the title of the regulation.*

On December 6, 2013, the State Air Pollution Control Board:

1. Authorized the department to promulgate the proposal for public comment using the fast-track process established in § 2.2-4012.1 of the Administrative Process Act for regulations expected to be non-controversial. The board's authorization constituted its adoption of the regulation at the end of the public

comment period provided that (i) no objection to use of the fast-track process is received from 10 or more persons, or any member of the applicable standing committee of either house of the General Assembly or of the Joint Commission on Administrative Rules, and (ii) the department does not find it necessary, based on public comments or for any other reason, to make any changes to the proposal.

2. Authorized the department to set an effective date 15 days after close of the 30-day public comment period provided (i) the proposal completes the fast-track rulemaking process as provided in § 2.2-4012.1 of the Administrative Process Act and (ii) the department does not find it necessary to make any changes to the proposal.

## Legal basis

*Please identify the state and/or federal legal authority to promulgate this proposed regulation, including (1) the most relevant citations to the Code of Virginia or General Assembly chapter number(s), if applicable, and (2) promulgating entity, i.e., agency, board, or person. The identification should include a reference to the agency/board/person's overall regulatory authority, as well as a specific provision authorizing the promulgating entity to regulate this specific subject or program; and a description of the extent to which the authority is mandatory or discretionary.*

Section 10.1-1308 of the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia) authorizes the State Air Pollution Control Board to promulgate regulations abating, controlling and prohibiting air pollution in order to protect public health and welfare. Written assurance from the Office of the Attorney General that the State Air Pollution Control Board possesses the statutory authority to promulgate the proposed regulation amendments is available upon request.

### Promulgating Entity

The promulgating entity for this regulation is the State Air Pollution Control Board.

### Federal Requirements

Section 109 (a) of the federal Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to prescribe national ambient air quality standards (NAAQS) to protect public health. Section 110 mandates that each state adopt and submit to EPA a state implementation plan (SIP) which provides for the implementation, maintenance, and enforcement of the NAAQS. Ozone, one of the pollutants for which there is a NAAQS, is in part created by emissions of VOCs. Therefore, in order to control ozone, VOCs must be addressed in Virginia's SIP.

40 CFR Part 51 sets out requirements for the preparation, adoption, and submittal of SIPs. Subpart F of Part 51, Procedural Requirements, includes § 51.100, which consists of a list of definitions. 40 CFR 51.100 contains a definition of VOC. This definition is revised by EPA in order to add or remove VOCs as necessary. If, for example, it can be demonstrated that a particular VOC is "negligibly reactive"--that is, if it can be shown that a VOC is not as reactive and therefore does not have a significant effect on ground-level or upper-level ozone--then EPA may remove that substance from the definition of VOC.

EPA originally proposed approval of a revision to the definition of VOC in 40 CFR 51.100 to exclude *trans* 1-chloro-3,3,3-trifluoroprop-1-ene (also known as Solstice™ 1233zd(E)) on February 15, 2013 (78 FR 11101). On August 28, 2013 (78 FR 53029), EPA finalized this change to the VOC exemption list, which became effective on September 27, 2013. On October 22, 2013 (78 FR 62451), EPA further revised the definition of VOC to exclude 2,3,3,3-tetrafluoropropene (also known as HFO-1234yf), which became effective on November 21, 2013.

### State Requirements

These specific amendments are not required by state mandate. Rather, Virginia's Air Pollution Control Law gives the State Air Pollution Control Board the discretionary authority to promulgate regulations "abating, controlling and prohibiting air pollution throughout or in any part of the Commonwealth" (§ 10.1-1308 A). The law defines such air pollution as "the presence in the outdoor atmosphere of one or more substances which are or may be harmful or injurious to human health, welfare or safety, to animal or plant life, or to property, or which unreasonably interfere with the enjoyment by the people or life or property" (§ 10.1-1300).

**Purpose**

*Please explain the need for the new or amended regulation. Describe the rationale or justification of the proposed regulatory action. Detail the specific reasons the regulation is essential to protect the health, safety or welfare of citizens. Discuss the goals of the proposal and the problems the proposal is intended to solve.*

The purpose of the regulation (general definitions) is not to impose any regulatory requirements in and of itself, but to provide a basis for and support to other provisions of the Regulations for the Control and Abatement of Air Pollution, which are in place in order to protect public health and welfare. The proposed amendments are being made to ensure that the definition of VOC, which is crucial to most of the regulations, is up-to-date and scientifically accurate, as well as consistent with the overall EPA requirements under which the regulations operate.

**Rationale for using fast track process**

*Please explain the rationale for using the fast track process in promulgating this regulation. Why do you expect this rulemaking to be noncontroversial?*

*Please note: If either an objection to the use of the fast-track process is received within the 30-day public comment period from 10 or more persons, or any member of the applicable standing committee of either house of the General Assembly or of the Joint Commission on Administrative Rules; or the Department finds it necessary, based on public comments or for any other reason, to make any changes to the proposal, the Department shall (i) file notice of the objection/reason with the Registrar of Regulations for publication in the Virginia Register, and (ii) proceed with the normal promulgation process with the initial publication of the fast-track regulation serving as the Notice of Intended Regulatory Action.*

The definition of VOC is being revised to add two less-reactive substances to the list of compounds not considered to be VOCs. As discussed elsewhere, these amendments are not expected to affect a significant number of sources or have any significant impact, other than a positive one, on air quality overall. Additionally, removal of these substances at the federal level was accompanied by detailed scientific review and public comment. Therefore, no additional information on the reactivity of these substances or the appropriateness of their removal is anticipated.

**Substance**

*Please briefly identify and explain new substantive provisions (for new regulations), substantive changes to existing sections or both where appropriate. Note, more detail about all provisions or changes is provided in the "Detail of changes" section.*

The general definitions impose no regulatory requirements in and of themselves but provide support to other provisions of the Regulations for the Control and Abatement of Air Pollution. The list of substances not

considered to be VOCs in Virginia has been revised to include *trans* 1-chloro-3,3,3-trifluoroprop-1-ene (also known as Solstice™ 1233zd(E)) and 2,3,3,3-tetrafluoropropene (also known as HFO-1234yf).

**Issues**

*Please identify the issues associated with the proposed regulatory action, including: (1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions; (2) the primary advantages and disadvantages to the agency or the Commonwealth; and (3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, please indicate.*

1. Public: The general public health and welfare will benefit because the revisions may encourage the use of the delisted substances in place of products containing more reactive and thereby more polluting substances. These substances are considered to be negligibly reactive in the formation of ground level (tropospheric) ozone and will not deplete upper level (stratospheric) ozone. Therefore, these substances do not have a negative effect on human health or the environment.

Excluding these substances as VOCs will make it easier and less expensive for industry to use them. Companies that use these substances in place of more reactive substances may also benefit by reducing their VOC emissions and concomitant reductions in permitting and other regulatory requirements.

2. Department: The amendments will allow the department to focus VOC reduction strategies on substances that have a negative impact on human health and the environment.

**Requirements more restrictive than federal**

*Please identify and describe any requirement of the proposal which is more restrictive than applicable federal requirements. Include a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements or no requirements that exceed applicable federal requirements, include a statement to that effect.*

The proposed regulation amendments are not more restrictive than the applicable legal requirements.

**Localities particularly affected**

*Please identify any locality particularly affected by the proposed regulation. Locality particularly affected means any locality which bears any identified disproportionate material impact which would not be experienced by other localities.*

There is no locality which will bear any identified disproportionate material air quality impact due to the proposed regulation which would not be experienced by other localities.

**Public participation**

*Please include a statement that in addition to any other comments on the regulation, the agency is seeking comments on the costs and benefits of the proposal, the potential impacts on the regulated community, and the impacts of the regulation on farm or forest land preservation.*

In addition to any other comments, the board is seeking comments on the costs and benefits of the proposal, the impacts on the regulated community, and impacts of the regulation on farm or forest land preservation. Also, the board is seeking information on impacts to small businesses as defined in § 2.2-4007.1 of the Code of Virginia. Information may include (1) projected reporting, recordkeeping and other administrative costs, (2) probable effect of the proposal on affected small businesses, and (3) description of less intrusive or costly alternative methods of achieving the purpose of the proposal.

Anyone wishing to submit written comments may do so by mail, email, or fax to the staff contact listed below. Comments may also be submitted through the Public Forum feature of the Virginia Regulatory Town Hall web site at [www.townhall.virginia.gov](http://www.townhall.virginia.gov). Written comments must include the name and address of the commenter. In order to be considered, comments must be received by the last day of the public comment period. Commenters submitting faxes are encouraged to provide the signed original by postal mail within one week.

All comments requested by this document must be submitted to the agency contact: Karen G. Sabasteanski, Policy Analyst, Office of Regulatory Affairs, Department of Environmental Quality, P.O. Box 1105, Richmond, Virginia, 23218 (email [karen.sabasteanski@deq.virginia.gov](mailto:karen.sabasteanski@deq.virginia.gov), fax 804-698-4510).

**Economic impact**

*Please identify the anticipated economic impact of the proposed regulation.*

<p><b>Projected cost to the state to implement and enforce the proposed regulation, including (a) fund source / fund detail, and (b) a delineation of one-time versus on-going expenditures.</b></p>	<p>It is not expected that the regulation will result in any cost to the department beyond that currently in the budget. The sources of department funds to carry out this regulation are the general fund and the federal trust (grant money provided by EPA under § 105 of the federal Clean Air Act or permit fees charged to affected entities under the permit program). The activities are budgeted under the following program (code)/subprogram (code): (i) Environmental and Resource Management (51300)/Air Protection Permitting (51325) and Air Protection Compliance and Enforcement (51326) and Air Protection Planning and Policy (51328). The costs are expected to be ongoing.</p>
<p><b>Projected cost of the new regulations or changes to existing regulations on localities.</b></p>	<p>The projected cost of the regulation on localities is not expected to be beyond that of other affected entities.</p>
<p><b>Description of the individuals, businesses or other entities likely to be affected by the new regulations or changes to existing regulations.</b></p>	<p>Honeywell, Inc. submitted a petition to EPA on July 19, 2011, requesting that <i>trans</i> 1-chloro-3,3,3-trifluoroprop-1-ene (also known as Solstice™) be exempted from VOC control based on its low reactivity relative to ethane. The petitioner indicated that Solstice™ 1233zd(E) may be used in variety of applications, including as a solvent in aerosol and non-aerosol applications, as a blowing agent in insulating foams for refrigerators/freezers and hot water heaters, and as a refrigerant in commercial chillers and waste heat recovery (Rankin cycle) systems. In the foam blowing applications, Solstice™ 1233zd(E) will compete with HFC-245fa, HFC-365mfc and cyclopentane. Solstice™</p>

	<p>1233zd(E) will compete with HFC-245fa and HFC-134a in refrigerant applications and with HCFC-225ca, HCFC-225cb, HFC-43-10mee and methyl chloroform in aerosol solvent applications. Honeywell states that Solstice™ 1233zd(E) has low ozone reactivity, low global warming potential, low contribution to ozone depletion and low toxicity, and that the use of the compound avoids the fire risk of using cyclopentane as a foam blowing agent.</p> <p>Honeywell Inc. submitted a petition to the EPA on June 29, 2009, requesting that HFO-1234yf be exempted from VOC control based on its low reactivity relative to ethane. The petitioner indicated that HFO-1234yf may be used as a refrigerant for refrigeration and air-conditioning. Honeywell also indicated that it expects HFO-1234yf to be widely used as a replacement for HFC-134a in motor vehicle air-conditioners (MVAC), and that it has been specifically developed for this purpose. Honeywell asserts that as a replacement for use in MVACs, there will be an environmental advantage in that the global warming potential (GWP) of HFO-1234yf is 4, which is substantially lower than the GWP for HFC-134a (100-year GWP = 1430), which HFO-1234yf is designed to replace.</p>
<p><b>Agency’s best estimate of the number of such entities that will be affected. Please include an estimate of the number of small businesses affected.</b> Small business means a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million.</p>	<p>There are no known facilities located in Virginia that currently use these substances. There are facilities that may some day eventually wish to use these substances; however, the department has not identified any specific facilities that plan to do so.</p>
<p><b>All projected costs of the new regulations or changes to existing regulations for affected individuals, businesses, or other entities. Please be specific and include all costs. Be sure to include the projected reporting, recordkeeping, and other administrative costs required for compliance by small businesses. Specify any costs related to the development of real estate for commercial or residential purposes that are a consequence of the proposed regulatory changes or new regulations.</b></p>	<p>Because there are currently no known facilities in the state using these substances, no facility would realize any cost savings associated with the removal of these substances as a VOCs. A facility that is not currently using these substances but at some point does choose to do so may realize a cost savings; in the absence of any currently interested facilities, the department has no way of quantifying any potential savings.</p>
<p><b>Beneficial impact the regulation is designed to produce.</b></p>	<p>The general public health and welfare will likely benefit because the revision may encourage the use of the affected substances in place of products containing more reactive and thereby more polluting substances. Due to their low photochemical reactivity, these substances are considered to be negligibly reactive in the formation of ground level ozone and will not deplete upper level ozone. Therefore, these substances do not</p>

	<p>have a negative effect on human health or the environment.</p> <p>Excluding these substances as VOCs will make it easier and less expensive for industry to use them. Companies that use these substances in place of more reactive substances may also benefit by reducing their VOC emissions and concomitant reductions in permitting and other regulatory requirements.</p> <p>The amendments will allow the department to focus VOC reduction strategies on substances that have a negative impact on human health and the environment.</p>
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**Alternatives**

*Please describe any viable alternatives to the proposal considered and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the action. Also, include discussion of less intrusive or less costly alternatives for small businesses, as defined in §2.2-4007.1 of the Code of Virginia, of achieving the purpose of the regulation.*

Alternatives to the proposed regulation amendments were considered by the board. The board determined that the first alternative is appropriate, as it is the least burdensome and least intrusive alternative that fully meets the purpose of the regulation. The alternatives considered by the board, along with the reasoning by which the board has rejected any of the alternatives being considered, are discussed below.

1. Amend the regulation to satisfy the provisions of the law and associated regulations and policies. This option was chosen because it meets the stated purpose of the regulation: to protect public health and welfare by encouraging the use of substances that have less impact on either ground-level or upper-level ozone.
2. Make alternative regulatory changes to those required by the provisions of the law and associated regulations and policies. This option was not chosen because it would not meet the stated purpose of the regulation.
3. Take no action to amend the regulation and continue to use an outdated definition. This option was not chosen because it would not meet stated purpose of the regulation.

**Regulatory flexibility analysis**

*Please describe the agency’s analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) the establishment of less stringent compliance or reporting requirements; 2) the establishment of less stringent schedules or deadlines for compliance or reporting requirements; 3) the consolidation or simplification of compliance or reporting requirements; 4) the establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the proposed regulation.*

The regulation applies to all facilities, including small businesses. Any (1) establishment of less stringent compliance or reporting standards; (2) establishment of less stringent schedules or deadlines for compliance or reporting requirements; (3) consolidation or simplification of compliance or reporting requirements; (4) establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; or (5) exemption of small businesses from all or any part of the requirements contained in the proposed regulation for all small businesses would directly, significantly and adversely affect the benefits that would be achieved through the implementation of the regulation.

**Family impact**

*Please assess the impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: (1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; (2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; (3) strengthen or erode the marital commitment; and (4) increase or decrease disposable family income.*

It is not anticipated that these regulation amendments will have a direct impact on families.

**Detail of changes**

*Please list all changes that are being proposed and the consequences of the proposed changes. If the proposed regulation is a new chapter, describe the intent of the language and the expected impact. Please describe the difference between existing regulation(s) and/or agency practice(s) and what is being proposed in this regulatory action.*

*If the proposed regulation is intended to replace an emergency regulation, please list separately (1) all differences between the pre-emergency regulation and this proposed regulation, and (2) only changes made since the publication of the emergency regulation.*

<b>Current section number</b>	<b>Proposed new section number, if applicable</b>	<b>Current requirement</b>	<b>Proposed change, intent, rationale, and likely impact of proposed requirements</b>
9VAC5-10-20, definition of "volatile organic compound"	subdivision eee	Definition does not include <i>trans</i> 1-chloro-3,3,3-trifluoroprop-1-ene.	Revise definition to add <i>trans</i> 1-chloro-3,3,3-trifluoroprop-1-ene to the list of substances not considered to be VOC. Needed for public health and welfare benefit, and consistency with federal requirements.
9VAC5-10-20, definition of "volatile organic compound"	subdivision fff	Definition does not include 2,3,3,3-tetrafluoropropene.	Revise definition to add 2,3,3,3-tetrafluoropropene to the list of substances not considered to be VOC. Needed for public health and welfare benefit, and consistency with federal requirements.



## Acronyms and Definitions

*Please define all acronyms used in the Agency Background Document. Also, please define any technical terms that are used in the document that are not also defined in the "Definition" section of the regulations.*

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EPA - U.S. Environmental Protection Agency  
NAAQS - national ambient air quality standard  
SIP - state implementation plan  
VOC - volatile organic compound

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