

January 26, 1996

Mr. William K. Rawson
Latham & Watkins
100 1 Pennsylvania Avenue, N.W., Suite 1300
Washington, D.C. 20004-2505

Dear Mr. Rawson:

This is in response to the October 24, 1995 letter from you and Mr. Jeffery Holmstead in which you had asked for clarification concerning which organic chemicals are to be regulated in several new source performance standards (NSPS) which do not refer specifically to the definition of volatile organic compounds (VOC) found in 40 CFR § 51.100(s). The NSPS sections to which you refer include 40 CFR § 60.2; 40 CFR § 60.111 b(k); 40 CFR § 60.611; 40 CFR § 60.661; 40 CFR § 60.701; 40 CFR § 60.711(a)(20); and 40 CFR § 60.741. In addition, you refer to the VOC definition in one National Emission Standard for Hazardous Air Pollutants, 40 CFR § 63.702 (a). You also requested that the Environmental Protection Agency (EPA) add language to these sections to clarify that compounds which are listed as having negligible photochemical reactivity under 40 CFR § 51.100(s) are exempt from regulation under each of these NSPS and from the VOC definition in the NESHAP.

By this letter, we would like to clarify EPA's interpretation of these regulatory provisions. The Agency will be posting a copy of this letter on EPA's Technology Transfer Network (TTN) computer bulletin to help ensure that facilities subject to these regulations and the States that may be regulating the facilities are aware of this interpretation. Although, we do not anticipate that EPA will be able to revise the regulatory language in the near term to incorporate this interpretive policy we will continue to examine the necessity and feasibility of regulatory revisions in connection with other regulatory efforts.

With respect to the NSPS regulations located at 40 CFR part 60, the relevant definition for determining applicability of an NSPS regulation is the most current regulatory definition of VOC, as revised through a final, effective Federal Register notice. Therefore, any compound listed as being negligibly photochemically reactive in 40 CFR § 51.100(s), as revised by any final, effective Federal Register notice, would be excluded from regulation under the NSPS regulations. This interpretation would hold true for references to volatile organic compounds, total organic compounds (see e.g., 40 CFR §§ 60.611 and 60.661) or to volatile organic liquids (see e.g. 40 CFR § 60.111 b(k)).

With respect to the NESHAP for magnetic tape manufacturing, to be codified at 40 CFR Subpart EE, EPA established by regulation a definition of volatile organic compound (VOC) (see 59 Fed. Reg. 64580, 64598, to be codified at 40 CFR § 63.702(a)). This definition of VOC is similar to that at 40 CFR § 51.100(s), but since VOC as defined by the magnetic tape NESHAP is used as a surrogate for hazardous air pollutants (HAPs) for the purpose of emission testing, HAPs listed as negligibly reactive in 40 CFR § 51.100(s) should not be excluded from measurement. This should not be a problem for the magnetic tape NESHAP since currently the only negligibly reactive compounds, according to 40 CFR § 51.100(s), that are also HAPs are methylene chloride and methyl chloroform. These are not generally used in magnetic tape manufacturing. Therefore, although a volatile organic compound may be "exempt" from the definition of VOC for purposes of state implementation plan controls and new source performance standards, which are geared at regulating the precursors of ground-level ozone, such VOC may still be regulated under section 112 and the resultant MACT/NESHAP standards as a hazardous air pollutant.

We appreciate this opportunity to be of service and trust that this information will be helpful to you.

Sincerely,

Jack Edwardson
Associate Director
Emission Standards Division

G. T. Helms
Group Leader
Ozone Policy &
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cc: EPA Regional Air Branch Chiefs

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October 24, 1995

Mr. William L. Johnson
Mail Drop 15

Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711

Re: Request for Clarification of VOC Definitions

Dear Mr. Johnson:

We are writing on behalf of Eastman Chemical Company, Hoechst Celanese Corporation, and the Acetone Panel of the Chemical Manufacturers Association to follow up on our recent phone conversations regarding the need to clarify several regulations designed to control emissions of volatile organic compounds (VOCs). As we have discussed, the regulations in need of clarification were issued by the Environmental Protection Agency (EPA) before the Agency issued its general definition of VOC at 40 C.F.R. § 51.100 (the part 51 definition).

Most EPA regulatory programs specifically refer to the part 51 definition, but there are several individual regulations designed to control VOCs that do not incorporate the part 51 definition explicitly. (In fact, three regulations continue to refer to EPA policy statements on VOCs that were specifically superseded by the part 51 definition.) At least one state agency has raised concerns that acetone, which was recently exempted from regulation under the part 51 definition, may not be exempted from these older regulations.

Although we believe that EPA and the courts would use the part 51 definition when interpreting these regulations, we would appreciate clarification from the Agency to avoid any further confusion. Attached to this letter is a list of regulatory definitions in need of clarification.

I. Background

VOC emissions are regulated because of their potential to contribute to the formation of ground-level ozone. Not all VOCs are equal, however, in their potential to form ozone. The potential contribution that each VOC makes to ozone formation depends on its photochemical reactivity. EPA has long recognized that some VOCs have such low reactivity that they do not have an appreciable impact on the formation of ozone.

In 1977, in its "Recommended Policy on Control of Volatile Organic Compounds," EPA listed four "negligibly reactive" VOCs that "should be exempt from regulation under state implementation plans." 42 Fed. Reg. 35,314 (July 8, 1977). The Agency also noted that this initial list was not necessarily complete, recognizing that "[a]ny policy on photochemical reactivity necessarily has to be open to revision as new information is developed which may show specific compounds to be more or less photochemically reactive than indicated by current data." Id. at 35,316. In a series of policy statements issued between 1979 and 1991, the Agency added a number of other compounds to the list of exempt VOCs that have negligible reactivity and thus "do not contribute appreciably to the formation of ozone." See, E.G., 44 Fed. Reg. 32,042 (June 4, 1979) ; 45 Fed. Reg. 48, 941 (July 22, 1980) ; 54 Fed. Reg. 1, 967 (Jan. 18, 1989); 56 Fed. Reg. 11,418 (March 18, 1991).

In 1992, the Agency for the first time issued a broadly applicable definition of VOC, which appears at 40 C.F.R. § 51.100(s). This regulatory definition codified the earlier policy statements by explicitly excluding from the definition of VOC those compounds that previously had been identified as having negligible reactivity. 57 Fed. Reg. 3941 (February 3, 1992). Significantly, the Agency also stated that, in light of the new regulatory definition of VOC, "EPA hereby withdraws its prior policy statements regarding reactivity of VOC's in ozone SIP's as being moot." Id. at 3945. As additional reactivity data have become available since the part 51 definition was issued, EPA has revised the definition to add more compounds to the list of excluded compounds. See, e.g., 59 Fed. Reg. 50,693 (Oct. 5, 1994) (adding volatile methyl siloxanes and parachlorobenzotrifluoride); 60 Fed. Reg. 31, 633 (June 16, 1995) (adding acetone).

II. Regulations in Need of Clarification

Most of EPA's major regulatory programs incorporate by

reference the general definition of VOC in part 51. See, e.g., 40 C.F.R. § 52.21(b)(30) (PSD Program); 40 C.F.R. § 52.24(f)(18) (NSR Program). Thus, whenever the Agency revises the part 51 definition, the revision is incorporated into these programs automatically. There are, however, a few regulations designed to control VOCs that do not explicitly incorporate the part 51 definition by reference. As discussed below, these regulations fall into two categories: (1) regulations that do not use volatile organic compound or VOC as a defined term; and (2) regulations that simply refer to compounds that "participate in atmospheric photochemical reactions."

A. Regulations that Do Not Use VOC as a Defined Term

Several regulations appear to have been overlooked when the part 51 definition was issued because they do not use "volatile organic compound" or "VOC" as a defined term. For instance, the term "total organic compounds (TOC)" is used in place of VOC in several new source performance standards (NSPS) designed to control VOC emissions. See 40 C.F.R. § 60.611 (SOCMI Air Oxidation Units); § 60.661 (SOCMI Distillation Operations). There is also a new source performance standard designed to limit VOC emissions from certain storage vessels, but it uses the term "volatile organic liquids (VOL)" as a defined term instead of VOC. See 40 C.F.R. § 60.111b (Volatile Organic Liquid Storage Vessels Constructed After July 1984).

The regulations cited above explicitly exempt from the definition of TOC or VOL "those compounds which the Administrator has determined do not contribute appreciably to the formation of ozone." This statement, standing alone, would make it clear that the compounds excluded from the part 51 definition would be exempt under these regulations. Unfortunately, each of these regulations goes on to say that "[t]he compounds to be excluded are identified in Environmental Protection Agency's statements on ozone abatement policy for SIP revisions (42 FR 35314; 44 FR 32042; 45 FR 32424; 45 FR 48942)." These citations refer to the first four policy statements that EPA issued to identify negligibly reactive compounds -- the only policy statements that had been issued at the time the regulations were promulgated.1/

1. Another NSPS that uses TOC as a defined term was issued after EPA withdrew the reactivity policy statements as moot. 40 C.F.R. § 60.701 (SOCMI Reactor Processes). Like the other NSPSs that refer to TOC, it excludes from the definition of TOC "those compounds which the Administrator

William L. Johnson
October 24, 1995
Page 4

The regulations, however, have never been formally updated to reflect the fact that more compounds have been added to the list of negligibly reactive compounds since 1980.

In light of the background described above and the clear purpose of the regulations, we believe that EPA and the courts would interpret these regulations to exempt all compounds that have been identified as negligibly reactive -- not just those that had been so identified prior to 1980. As noted above, the part 51 definition was explicitly designed to supersede the earlier policy statements. Moreover, in the preamble to the final rule establishing the part 51 definition, EPA stated that it was withdrawing the prior policy statements "as being moot." 57 Fed. Reg. at 3945. Thus, this rule effectively removed all references to the policy statements in EPA regulations and replaced them with the part 51 definition.

At least one state agency, however, has expressed concern that the definition of VOL in 40 C.F.R. § 60.111b does not explicitly exclude acetone, which was recently added to the list of negligibly reactive compounds. Therefore, in order to avoid any confusion, we request that the Agency clarify the regulations designed to control VOC emissions that do not explicitly refer to the general definition of VOC in part 51.

B. Regulations that Refer to Compounds that "Participate in Atmospheric Photochemical Reactions"

There are four other EPA regulations that simply define VOC as "any organic compound which participates in atmospheric photochemical reactions." 40 C.F.R. § 60.2 (NSPS General Definitions)60.711(a)(20) (NSPS for Magnetic Tape Coating Facilities),60.741 (NSPS for Polymeric Coating of Supporting Substrates Facilities), and 63.702(a) (NESHAP for Magnetic Tape Coating Facilities). This wording tracks the first sentence of the part 51 definition ("any compound of carbon . . . which participates in atmospheric photochemical reactions"), but does not include the clarification in the second sentence of the part 5.1 definition, which states that "[t]his includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity" and then goes on to list specific compounds.

has determined do not contribute appreciably to the formation of ozone." Unlike the other NSPSs, however, this regulation does not contain a separate sentence that refers to the reactivity policy statements that pre-date the part 51 definition.

William L. Johnson
October 24, 1995
Page 5

Again, even without a reference to the part 51 definition or any specific compounds, we believe that EPA and the courts would interpret these regulations to exempt all compounds that have been identified as negligibly reactive. The second sentence of the part 51 definition simply makes it clear that certain organic compounds, as a practical matter, do not "participate in atmospheric photochemical reactions." Moreover, since the purpose of all VOC-control regulations is the same to reduce ground-level ozone -- there is no reason to use a different definition of VOC for different regulations. In order to eliminate any ambiguity, however, we ask that EPA clarify its definition of VOC in these regulations as well.

III. Providing Clarification

As we discussed over the phone, we would very much appreciate a prompt response to this letter to confirm our interpretation of the regulations mentioned above (and listed in the attachment). As noted above, at least one state agency has already raised a question about whether acetone should still be considered a VOL under 40 C.F.R. § 60.611b. A letter from EPA would be very helpful in this and similar situations that may arise with state regulatory officials. Even if the Agency has questions about some of the other regulation listed in the attachment, we would very much appreciate a response on the VOL issue as quickly as possible.

We also suggest that the Agency consider two other actions to avoid any confusion about compounds that are regulated as VOCs. First, the Agency could issue a policy statement noting that questions have been raised about individual regulations that do not explicitly incorporate the part 51 definition by reference. Such a statement should clarify that compounds listed as negligibly reactive in the part 51 definition (including any compounds added to that list in the future) are exempted from all regulatory programs designed to control VOC emissions.

Second, the Agency may wish to consider making technical amendments to the various regulations to ensure that the definition of VOC is consistent across all EPA regulatory programs. The attachment lists all the regulations that should incorporate the part 51 definition by reference. As you will see, the attachment includes the current language of each regulation and proposed revisions to the language.

William L. Johnson
October 24, 1995
Page 6

We believe that, in some cases, the part 51 definition in its entirety should simply be incorporated by reference as it is under other EPA programs. In other cases, particularly individual NSPS standards, the regulations may need to refer to specific test methods instead of referring only to the general part 51 definition. In these cases, the regulatory definition should be revised to state that compounds listed as negligibly reactive under §51.100(s) are excluded from the definition.

William L. Johnson
October 24, 1995
Page 7

Thank you again for taking the time to review this issue. If you have any questions, please feel free to contact either of us at 202-637-2287.

Sincerely,

William K. Rawson
Jeffrey R. Holmstead

Attachment

CC: Robert J. Avery, Eastman Chemical Company
Roger D. Tankersley, Hoechst Celanese Corporation
Kathleen M. Roberts, CMA Acetone Panel Manager

William L. Johnson
October 24, 1995
Page 8

[Attachment to October 24, 1995 letter from William K. Rawson and Jeffery R. Holmstead, Latham & Watkins)

**REGULATIONS THAT SHOULD REFERENCE THE
GENERAL DEFINITION OF VOC AT 40 C.F.R. §51.100(s)**

40 C.F.R. § 60.2

1. Current Language

Volatile organic compound means any organic compound which participates in atmospheric photochemical reactions; or which is measured by a reference method, an equivalent method, an alternative method, or which is determined by procedures specified under any subpart.

2. Proposed Language

Volatile organic compound is as defined in § 51.100(s) of this chapter.

Or

Volatile organic compound means any organic compound which participates in atmospheric photochemical reactions; or which is measured by a reference method, an equivalent method, an alternative method, or which is determined by procedures specified under any subpart; except that compounds listed in § 51.100(s) of this chapter as having negligible photochemical reactivity shall not be considered volatile organic compounds.

40 C.F.R. § 60.111b(k)

1. Current Language

Volatile organic liquid (VOL) means any organic liquid which can emit volatile organic compounds into the atmosphere except those VOL's that emit only those compounds which the Administrator has determined do not contribute appreciably to the formation of ozone. These compounds are identified in EPA statements on ozone abatement policy for SIP revisions (42 FR 35314, 44 FR 32042, 45 FR 32424, and 45 FR 48941).

2. Proposed Language

Volatile organic liquid (VOL) means any organic liquid which can emit volatile organic compounds into the atmosphere except those VOL's that emit only those compounds that have been listed in § 51.100(s) of this chapter as having negligible photochemical reactivity.

40 C.F.R. § 60.611

1. Current Language

Total organic compounds (TOC) means those compounds measured according to the procedures in § 60.614(b)(4). For the purposes of measuring molar composition as required in § 60.614(d)(2)(i), hourly emissions rate as required in § 60.614(d)(5) and § 60.614(e) and TOC concentration as required in § 60.615(b)(4) and § 60.615(g)(4), those compounds which the Administrator has determine do not contribute appreciably to the formation of ozone are to be excluded. The compounds to be excluded are identified in Environmental Protection Agency's statements on ozone abatement policy for SIP revisions (42 FR 35314; 44 FR 32042; 45 FR 32424; 45 FR 48942).

2. Proposed Language

Total organic compounds (TOC) means those compounds measured according to the procedures in § 60.614(b)(4). For the purposes of measuring molar composition as required in § 60.614(d)(2)(i), hourly emissions rate as required in § 60.614(d)(5) and § 60.614(e) and TOC concentration as required in § 60.615(b)(4) and § 60.615(g)(4), those compounds that have been listed in § 51.100(s) of this chapter as having negligible photochemical reactivity are to be excluded.

40 C.F.R. § 60.661

1. Current Language

Total organic compounds (TOC) means those compounds measured according to the procedures in § 60.664(b)(4). For the purposes of measuring molar composition as required in § 60.664(d)(2)(i); hourly emissions rate as required in § 60.646 (d) (5) and § 60.664 (e); and TOC concentration as required in § 60.665(b)(4)

and § 60.665(g)(4). those compounds which the Administrator has determined do not contribute appreciably to the formation of ozone are to be excluded. The compounds to be excluded are identified in Environmental Protection Agency's statements on ozone abatement policy for State Implementation Plans (SIP) revisions (42 FR 35314; 44 FR 32042; 45 FR 32424; 45 FR 48942).

2. Proposed Language

Total organic compounds (TOC) means those compounds measured according to the procedures in § 60.664(b)(4). For the purposes of measuring molar composition as required in § 60.664(d)(2)(i); hourly emissions rate as required in § 60.646(d)(5) and § 60.664(e); and TOC concentration as required in § 60.665(b)(4) and § 60.665(g)(4), those compounds that have been listed in § 51.100(s) of this chapter as having negligible photochemical reactivity are to be excluded.

40 C.F.R. § 60.701

1. Current Language

Total organic compounds or TOC means those compounds measured according to the procedures in § 60.704(b)(4). For the purposes of measuring molar composition as required in § 60.704(d)(2)(i) and § 60.704(d)(2)(ii), hourly emission rate as required in § 60.704(d)(5) and § 60.704(e), and TOC concentration as required in § 60.705(b)(4) and § 60.705(f)(4), those compounds which the Administrator has determined do not contribute appreciably to the formation of ozone are to be excluded.

2. Proposed Language

Total organic compounds or TOC means those compounds measured according to the procedures in § 60.704(b)(4). For the purposes of measuring molar composition as required in § 60.704(d)(2)(i) and § 60.704(d)(2)(ii), hourly emission rate as required in § 60.704(d)(5) and § 60.704(e), and TOC concentration as required in § 60.705(b)(4) and § 60.705(f)(4), those compounds that have been listed in § 51.100(s) of this chapter as having negligible photochemical reactivity are to be excluded.

40 C.F.R. I § 60.711(a)(20)

1. Current Language

Volatile organic compounds or VOC means any organic compounds that participate in atmospheric photochemical reactions or that are measured by Method 18, 24, 25 or 25A or an equivalent or alternative method as defined in 40 CFR 60.2.

2. Proposed Language

Volatile organic compounds or VOC means any organic compounds that participate in atmospheric photochemical reactions or that are measured by Method 18, 24, 25 or 25A or an equivalent or alternative method as defined in 40 CFR 60.2; except that compounds listed in § 51.100(s) of this chapter as having negligible photochemical reactivity shall not be considered volatile organic compounds.

40 C.F.R. § 60.741

1. Current Language

Volatile organic compounds or VOC means any organic compounds that participate in atmospheric photochemical reactions; or that are measured by a reference method, an equivalent method, an alternative method, or that are determined by procedure specified under any subpart.

2. Proposed Language

Volatile organic compound is as defined in § 51.100(s) of this chapter.

Or

Volatile organic compounds or VOC means any organic compounds that participate in atmospheric photochemical reactions; or that are measured by a reference method, an equivalent method, an alternative method, or that are determined by procedure specified under any subpart; except that compounds listed in § 51.100(s) of this chapter as having negligible photochemical reactivity shall not be considered volatile organic compounds.

40 C.F.R. § 63.702(a)

1. Current Language

Volatile organic compound (VOC) means any organic compound that participates in atmospheric photochemical reactions or that is measured by EPA, Test Methods 18, 24, or 25A in appendix A of part 60 or an alternative test method as defined in § 63.2.

2. Proposed Language

Volatile organic compound (VOC) means any organic compound that participates in atmospheric photochemical reactions or that is measured by EPA Test Methods 18, 24, or 25A in appendix A of part 60 or an alternative test method as defined in § 63.2; except that compounds listed in § 51.100(s) of this chapter as having negligible photochemical reactivity shall not be considered volatile organic compounds.