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## **TITLE 326 AIR POLLUTION CONTROL BOARD**

### **SECOND NOTICE OF COMMENT PERIOD #01-251(APCB)**

#### **DEVELOPMENT OF AMENDMENTS TO RULE 326 IAC 8-1-2 CONCERNING COMPLIANCE METHODS APPLICABLE TO DIP OR FLOW OPERATIONS AT MISCELLANEOUS METAL COATING OPERATIONS SUBJECT TO THE VOLATILE ORGANIC COMPOUND RULES**

##### **PURPOSE OF NOTICE**

The Indiana Department of Environmental Management (IDEM) has developed draft rule language for amendments to rule 326 IAC 8-1-2, compliance methods, applicable to dip or flow operations at miscellaneous metal coating operations regulated at 326 IAC 8-2-9. By this notice, IDEM is soliciting public comment on the draft rule language. IDEM seeks comment on the affected citations listed and any other provisions of Title 326 that may be affected by this rulemaking.

##### **HISTORY**

First Notice of Comment Period: August 1, 2001, Indiana Register (24 IR 3826).

**CITATIONS AFFECTED:** 326 IAC 8-1-2.

**AUTHORITY:** IC 13-14-8.

##### **SUBJECT MATTER AND BASIC PURPOSE OF RULEMAKING**

Volatile organic compounds (VOCs) contribute to ozone formation. Ozone degrades air quality and is detrimental to human health. For these reasons VOCs are regulated. The vast majority of coatings available to be applied to a specific surface contain VOCs. There are a number of ways to apply coatings to a surface including spray guns and dip or flow operations.

In response to a citizen petition regarding compliance methods for dip or flow operations for application of VOC containing coatings to metal parts, the Indiana Air Pollution Control Board adopted a rule that added equivalent emissions limitations at 326 IAC 8-1-2(a)(9) applicable to miscellaneous metal coating operations subject to 326 IAC 8-2-9 and compliance methods for dip and flow operations only, at 326 IAC 8-1-2(a)(10).

Prior to promulgation of the rule that added equivalent emission limitations at 326 IAC 8-1-2(a)(9) and compliance methods at 326 IAC 8-1-2(a)(10), an owner or operator of a miscellaneous metal coating operation was required to determine compliance on a daily volume-weighted average basis. This was inconsistent with some procedures required for proper operation of dip and flow facilities. Allowing compliance to be determined only on a daily volume-weighted average basis would require many metal coaters to change from dip or flow coating to applying coatings using a spray gun. Even though there would be less VOC emissions if a part was coated by dipping or flow coating, neither of these techniques could be used as a method to apply a VOC containing coating under certain circumstances because there were neither equivalent emissions limitations nor an appropriate method to determine compliance with the emission limits. The rule that the Air Pollution Control Board adopted provided equivalent emission limitations for sources subject to 326 IAC 8-2-9 and provided two (2) ways to demonstrate compliance. Compliance could be demonstrated using a monthly volume-weighted average of all coatings applied in a coating tank, flow coater, or flow coating line, or it could be demonstrated using compliant coatings in the tank or reservoir, and maintaining a viscosity of the coatings that is not less than the viscosity of the initial coating.

After the rule was promulgated, the United States Environmental Protection Agency (U.S. EPA) indicated that 326 IAC 8-1-2(a)(10)(A), which provides for monthly averaging, is a relaxation of the daily compliance standard, and 326 IAC 8-1-2(a)(10)(B), which provides for using viscosity as a measure of compliance as was done in under Subpart JJ NESHAP (National Emission Standards for Wood Furniture Operations, 40 CFR 63.804), is unacceptable for two reasons. First, Subpart JJ established compliance procedures applicable to volatile hazardous air pollutants (VHAPs) but not to VOCs. Second, U.S. EPA established test methods in 40 CFR 63.805 applicable to VHAPs sources that wish to monitor viscosity to maintain compliant coatings but these test methods have not been approved for use by VOC sources that wish to monitor viscosity to maintain compliant coatings. Additionally, U.S. EPA stated that "commissioner discretion" language at existing rule 326 IAC 8-1-2(a)(5)(B) provides a potential relaxation of the state implementation plan and therefore is not approvable.

Many businesses that are interested in using dip or flow coating are required to have a Title V permit. The rules regulating emissions from VOC containing coatings applied to miscellaneous metal parts are part of the existing SIP and therefore applicable requirements for Title V purposes. At this time, U.S. EPA has not approved the alternative dip or flow coating compliance options provided in the revisions to 326 IAC 8-1. Therefore until 326 IAC 8-1-2(a) subdivisions (5), (9), and (10) are amended and approved

by U.S. EPA as amendments to the

SIP, businesses can not comply with 326 IAC 8-2-9 using the alternative compliance options for dip or flow operations and some affected sources that have dip or flow coating operations cannot receive their Title V operating permit.

The department and U.S. EPA have identified approvable amendments to 326 IAC 8-1-2 that provide a compliance option for sources using dip or flow coating as application techniques. This option relies on determining compliance "as applied" based on the interval between solvent additions and use of an equation. Additionally, the commissioner discretion issue at 326 IAC 8-1-2(a)(5) will be addressed by determining compliance according to a specified equation.

#### **SUMMARY/RESPONSE TO COMMENTS FROM THE FIRST COMMENT PERIOD**

IDEM requested public comment from August 1, 2001, through August 30, 2001, on alternative ways to achieve the purpose of the rule and suggestions for the development of draft rule language. IDEM received no comments in response to the first notice of public comment period.

#### **REQUEST FOR PUBLIC COMMENTS**

This notice requests the submission of comments on the draft rule language, including suggestions for specific revisions to language to be contained in the draft rule. Mailed comments should be addressed to:

#01-251(APCB)[Dip tanks]

Kathryn A. Watson, Chief

Air Programs Branch

Office of Air Quality

Indiana Department of Environmental Management

P.O. Box 6015

Indianapolis, Indiana 46206-6015.

Hand delivered comments will be accepted by the receptionist on duty at the tenth floor reception desk, Office of Air Quality, 100 North Senate Avenue, Indianapolis, Indiana, Monday through Friday, between 8:15 a.m. and 4:45 p.m.

Comments may be submitted by facsimile at the IDEM fax number: (317) 233-2342, Monday through Friday, between 8:15 a.m. and 4:45 p.m. Please confirm the timely receipt of faxed comments by calling the Rules Development Section at (317) 233-0426.

#### **COMMENT PERIOD DEADLINE**

Comments must be postmarked, hand delivered, or faxed by December 3, 2001.

Additional information regarding this action may be obtained from Patricia Troth, Rules Development Section, Office of Air Quality, (317) 233-5681 or (800) 451-6027, press 0, and ask for 3-5681 (in Indiana).

#### **DRAFT RULE**

SECTION 1. 326 IAC 8-1-2 IS AMENDED TO READ AS FOLLOWS:

#### **326 IAC 8-1-2 Compliance methods**

Authority: IC 13-14-8

Affected: IC 13-17

Sec. 2. (a) The emission limitations specified in this article shall be achieved through one (1) or any combination of the following:

(1) Carbon adsorption.

(2) Thermal or catalytic incineration. The owner or operator of a source using a natural gas afterburner incineration method may petition the commissioner for permission to not operate the natural gas afterburner during the months of November, December, January, February, and March. The commissioner may allow such exemption if the owner or operator adequately demonstrates that the operation of the natural gas afterburner is not required for control of toxic substances or odor.

(3) Higher solids (low solvent) ~~coating~~ **coatings, including powder, ultraviolet and electron beam coatings.**

(4) Water borne coatings.

(5) Equivalent emission limitations based on an actual measured transfer efficiency higher than the specified baseline transfer efficiency **as follows:**

**(A)** This subdivision is applicable only to 326 IAC 8-2-2(b)(2), automobiles and light duty truck assembly; 326 IAC 8-2-6, metal furniture coating; and 326 IAC 8-2-7, large appliance coating.

**(B) For metal furniture or large appliance coating operations, this subdivision and the equivalent emission limits it contains may not be used to determine compliance unless a test method for determining actual measured transfer efficiency has been specified by U.S. EPA or submitted to U.S. EPA and approved as a SIP revision.**

**(C)** The equivalent emission limitations in units of kilograms of volatile organic compounds (VOC) per liter solids deposited (pounds of VOC per gallon solids deposited), baseline transfer efficiencies, and baseline volume percent solids content of the coating are specified below:

Category	Equivalent Emission Limit	Baseline Transfer Efficiency	Baseline Percent Solids
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Automobiles and light duty trucks assembly (topcoat)	1.83 (15.1)	30	62.0
Metal furniture	1.01 (8.4)	60	59.2
Large appliances	0.91 (7.4)	60	62.0

**(D) Compliance with an equivalent emission limit shall be determined as follows:**

~~(i)~~ For automobile and light duty topcoating operations, ~~compliance with the equivalent emission limit shall be determined using:~~ ~~(A)~~ use procedures found in “Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations”; EPA-450/3-88-018; December 1988\*. ~~or~~ ~~(B)~~ another procedure approved by the commissioner. ~~(ii)~~ For metal furniture or large appliance coating operations, ~~compliance with the equivalent emission limit shall be determined using the procedures approved by the commissioner. Unless the method for determining actual measured transfer efficiency has been approved or specified by the United States Environmental Protection Agency (U.S. EPA), the equivalent emission limitation shall be submitted to the U.S. EPA as a state implementation plan (SIP) revision.~~ use the following equation:

$$E \leq \frac{L}{[(1/L/D) \times (T)]}$$

- Where: **E = Actual emissions in pounds of VOC per gallon of coating solids deposited.**  
**L = Actual VOC content in pounds of VOC per gallon of coating, as applied, excluding water and nonphotochemically reactive hydrocarbons.**  
**D = Actual density of the VOC in the coating in pounds per gallon of VOC.**  
**T = Actual measured transfer efficiency.**

(6) The use of nonphotochemically reactive hydrocarbons as defined in 326 IAC 1-2-48.

(7) A daily volume-weighted average of all coatings applied in a coating line or printing line subject to the requirements in 326 IAC 8-2 or 326 IAC 8-5-5. Records of daily usage of gallons solids coating and VOC content of each coating, ~~or~~ ink, ~~and~~ solvent shall be maintained and made available upon request. Also, records of daily emissions in pounds VOC shall be maintained and made available upon request. If daily records sufficient to determine an accurate daily weighted average are not available, each coating, ~~or~~ ink, ~~and~~ solvent shall meet the requirements of the applicable section.

(8) The use of an emission control device specifically allowed under provisions of any rule in this article to meet the emission limitations specified in the rule.

(9) Equivalent emissions limitations based on an actual measured transfer efficiency ~~higher~~ **greater** than the specified baseline transfer efficiency.

~~(A)~~ This subdivision is applicable only to miscellaneous metal coating operations subject to 326 IAC 8-2-9.

~~(B)~~ **This subdivision and the equivalent emission limits it contains may not be used to determine compliance unless a test method for determining actual measured transfer efficiency has been specified by U.S. EPA or submitted to U.S. EPA and approved as a SIP revision.**

~~(A)~~ ~~(C)~~ **(C)** Equivalent emission limits in units of kilograms of VOC per liter solids deposited (pounds of VOC per gallon solids deposited), baseline transfer efficiencies, and baseline volume percent solids content of coatings are as follows:

Miscellaneous Metal Coating Category	Equivalent Emission Limit kg/l (lbs/gal) of Solids Deposited	Baseline Transfer Efficiency	Baseline Volume Percent Solids
Clear coatings	2.08 (17.3)	60	41.6
Air dried up to 90°C	1.34 (11.2)	60	52.4
Extreme performance coatings	1.34 (11.2)	60	52.4
All other coatings and coating systems	1.01 (8.4)	60	59.2

~~(B)~~ **(D)** Compliance with the equivalent emission limit shall be determined according to the following equation:

$$E \leq \frac{L}{[(1/L/D) \times (T)]}$$

- Where: **E = ~~Equivalent emission limit~~ Actual emissions** in pounds of VOC per gallon of coating solids deposited.  
**L = Actual VOC content in pounds of VOC per gallon of coating, as applied, excluding water and nonphotochemically reactive hydrocarbons.**  
**D = Actual density of the VOC in the coating in pounds per gallon of VOC.**

T = Actual measured transfer efficiency.

Unless the method for determining actual measured transfer efficiency has been approved or specified by the U.S. EPA, the equivalent emission limitation shall be submitted to the U.S. EPA as an SIP revision:

(10) For dip or flow coating operations only; miscellaneous metal coating operations subject to the requirements of 326 IAC 8-2-9 may determine compliance by using one (1) of the following methods:

(A) A monthly volume-weighted average of all coatings applied in a coating tank, flow coater, or flow coating line. For each coating, thinner, or solvent, the following records shall be maintained:

(i) Monthly usage;

(ii) VOC content as supplied by the manufacturer for coatings, thinners, and solvents;

(iii) Monthly emissions in pounds of VOC;

(iv) Calculated monthly volume-weighted average VOC content of the coating as applied.

If monthly records sufficient to determine an accurate monthly weighted average are not available, then a compliance method specified in this subsection or subsection (b) must be used to confirm compliance. Records necessary for determining compliance shall be maintained at the source for a minimum of three (3) years and shall be made available upon request.

(B) Using coatings in compliance with 326 IAC 8-2-9(d), in the tank or reservoir, and maintaining a viscosity of the coatings that is no less than the viscosity of the initial coating. During the first year of operation using this compliance method the source must demonstrate, by means of viscosity readings and a minimum of two (2) U.S. EPA approved VOC content tests, performed at a minimum four (4) month interval, that the VOC content of the coating as applied does not exceed the VOC content stipulated in 326 IAC 8-2-9(d). Such testing must comply with the provisions of 326 IAC 3-2.1. After the first year of operation and providing that the VOC content tests have confirmed compliance using viscosity readings, the source may use viscosity readings to confirm compliance. Sources may monitor the viscosity of the coating with a viscosity meter or an equivalent method approved by the department. The viscosity shall be measured weekly or after each time solvent is added to the tank or reservoir, whichever is more frequent. The viscosity measurement must be corrected for the temperature of the coating in the tank or reservoir and the solvent density of the thinner. Records of viscosity and temperature, sufficient to confirm compliance, shall be maintained at the source for a minimum of three (3) years and shall be made available upon request. Equipment necessary to demonstrate compliance based on viscosity must be properly maintained and available at all reasonable times. If viscosity is not monitored, then another compliance method specified in this subsection must be used to confirm compliance. For determining compliance based on this clause, an actual test, using approved methods such as a U.S. EPA Method 24 test and sampling procedures, of the VOC content of the coating in the tank or reservoir shall take precedence over viscosity. (10) For dip coating or flow coating operations only, miscellaneous metal coating operations subject to the requirements of 326 IAC 8-2-9 and using coatings that contain less VOC than the VOC content limits in 326 IAC 8-2-9 may determine compliance "as-applied" based on the interval between solvent additions using the following equation:

$$E_{ave} = \frac{VOC_a + VOC_s}{G_a + G_s}$$

Where:  $E_{ave}$  = Volume-weighted average VOC emissions from coatings applied by the dip tank or flow coater for a given interval.

$VOC_a$  = Total weight of VOC (in pounds) from all coatings added to the tank or the reservoir during the interval between solvent additions.

$VOC_s$  = Total weight of VOC (in pounds) contained in the solvent added to the tank or the reservoir that started the averaging period.

$G_a$  = Total gallons of coating, minus water and nonphotochemically reactive hydrocarbons added to the tank or the reservoir during the interval between solvent additions.

$G_s$  = Total gallons of solvent, minus water and nonphotochemically reactive hydrocarbons added to the tank or the reservoir that started the averaging period.

(A) Each interval shall start the calendar day any VOC-containing solvent is added to the tank or reservoir. The last day of the interval is the calendar day preceding the next solvent addition, not to exceed thirty (30) days. All of the additions of VOC-containing solvents and coatings to the tank that occur during the first calendar day and the additions of coatings to the tank each subsequent day of the interval shall be included in calculating the volume-weighted average for the interval. A new averaging interval must begin each day that a VOC-containing solvent is added to the tank or reservoir.

(B) If the interval between solvent additions exceeds thirty (30) days, then the daily volume-weighted average VOC emissions ( $E_{ave}$ ) shall be determined using an averaging time of thirty (30) days.

**(C) For compliance with this subdivision, the following records shall be maintained for each coating and solvent:**

- (i) The calculated volume-weighted average VOC emissions ( $E_{ave}$ ) for every interval.**
- (ii) Actual VOC content of the coatings and solvents determined by the applicable testing procedures specified in section 4 of this rule or as supplied by the manufacturer.**
- (iii) Records of the amounts of coatings and solvents added to the tank or the reservoir, including the dates of the additions.**

**Records, sufficient to confirm compliance, shall be maintained at the source for a minimum of three (3) years and shall be made available upon request.**

**(D) If records sufficient to determine an accurate volume-weighted average for each interval are not available, then another compliance method specified in this rule must be used to confirm compliance.**

(b) VOC emissions shall be limited to no greater than the equivalent emissions, expressed as pounds of VOC per gallon of coating solids, allowed under the applicable emission limitation contained in this article for any surface coating operation using the compliance methods contained in subsection (a) or section 5 of this rule.

(1) Equivalency shall be determined by the following equation:

$$E_{fi} \leq \frac{L}{1 + \frac{L}{D}}$$

Where:  **$E_{fi}$  = Equivalent emission limit in pounds of VOC per gallon of coating solids, as applied.**

**$L$  = Applicable emission limit from this article in pounds of VOC per gallon of coating.**

**$D$  = Baseline solvent density of VOC in the coating in and shall be equal to seven and thirty-six hundredths (7.36) pounds of VOC per gallon of VOC solvent.**

**$E_{fi}$  = Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.**

A solvent density of seven and thirty-six hundredths (7.36) pounds of VOC per gallon of coating shall be used to determine equivalent pounds of VOC per gallon of solids for the applicable emission limit contained in this article. Actual solvent density shall be used to determine compliance of surface coating operations using the compliance methods contained in subsection (a) or section 5 of this rule.

(2) Compliance with an equivalent emission limit established in subdivision (1) shall be determined according to the following equation:

$$E_a \leq \frac{L_a}{1 + \frac{L_a}{D_a}}$$

Where:  **$E_a$  = Actual emission in pounds of VOC per gallon of coating solids, as applied.**

**$L_a$  = Actual VOC content in pounds of VOC per gallon of coating, as applied.**

**$D_a$  = Actual density of the VOC in the coating, as applied, in pounds per gallon of VOC.**

(c) The overall efficiency of any capture system and control device determined by the test methods and procedures specified in section 4 of this rule shall be no less than the equivalent overall efficiency which shall be calculated by the following equation:

$$O_{fi} \leq \frac{V/E}{V} \times 100$$

Where:  **$V$  = The actual VOC content of the coating or, if multiple coatings are used, the daily weighted average VOC content of all coatings, as applied to the subject coating line as determined by the applicable test methods and procedures specified in section 4 of this rule in units of pounds of VOC per gallon of coating solids as applied.**

- E = Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.  
O = Equivalent overall efficiency of the capture system and control device as a percentage.

(d) Any **other** equivalent method ~~which is allowed to be used to determine or achieve compliance with any provision of this article shall must~~ be submitted to the U.S. EPA and approved as a SIP revision by U.S. EPA before it can be used to determine or achieve compliance with any provision of this article.

\*This document ~~has been~~ is incorporated by reference. ~~and is~~ **Copies are available for review and copying** at the Indiana Department of Environmental Management, Office of Air ~~Management~~ **Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.** (*Air Pollution Control Board; 326 IAC 8-1-2; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2527; errata, 11 IR 2632; filed Sep 23, 1988, 11:59 a.m.: 12 IR 256; filed Jan 16, 1990, 4:00 p.m.: 13 IR 1016; filed Apr 18, 1990, 4:55 p.m.: 13 IR 1676; filed May 9, 1990, 5:00 p.m.: 13 IR 1845; filed May 6, 1991, 4:45 p.m.: 14 IR 1713; filed Aug 21, 1996, 2:00 p.m.: 20 IR 6*)

#### **Notice of First Meeting/Hearing**

*Under IC 4-22-2-24, IC 13-14-8-6, and IC 13-14-9, notice is hereby given that on February 6, 2002 at 1:00 p.m., at the Indiana Government Center-South, 402 West Washington Street, Conference Center Room A, Indianapolis, Indiana, the Air Pollution Control Board will hold a public hearing on amendments to 326 IAC 8-1-2.*

*The purpose of this hearing is to receive comments from the public prior to preliminary adoption of these rules by the board. All interested persons are invited and will be given reasonable opportunity to express their views concerning the proposed amendments. Oral statements will be heard, but for the accuracy of the record, all comments should be submitted in writing. Procedures to be followed at this hearing may be found in the April 1, 1996, Indiana Register, page 1710 (19 IR 1710).*

*Additional information regarding this action may be obtained from Patricia Troth, Rules Development Section, Office of Air Quality, (317) 233-5681 or (800) 451-6027, press 0, and ask for 3-5681 (in Indiana). If the date of this hearing is changed, it will be noticed in the Change of Notice section of the Indiana Register.*

*Individuals requiring reasonable accommodations for participation in this event should contact the Indiana Department of Environmental Management, Americans with Disabilities Act coordinator at:*

*Attn: ADA Coordinator*

*Indiana Department of Environmental Management*

*100 North Senate Avenue*

*P.O. Box 6015*

*Indianapolis, Indiana 46206-6015*

*or call (317) 233-1785. TDD: (317) 232-6565. Speech and hearing impaired callers also may contact the agency via the Indiana Relay Service at 1-800-743-3333. Please provide a minimum of 72 hours' notification.*

*Copies of these rules are now on file at the Office of Air Quality, Indiana Department of Environmental Management, Indiana Government Center-North, 100 North Senate Avenue, Tenth Floor East, Indianapolis, Indiana and are open for public inspection.*

**Janet G. McCabe**  
Assistant Commissioner  
Office of Air Quality