

**Comment and Response Document on
The Sherwin-Williams Company's Variance
Request for Clear Wood Coatings - Varnishes**

The Pennsylvania Department of Environmental Protection (Department) published notice of the public comment period and public hearings for the Application for a Proposed Revision to the State Implementation Plan (SIP) for Architectural and Industrial Maintenance (AIM) Coatings and The Sherwin-Williams Company Variance Request for Interior Wiping Stains in the *Pennsylvania Bulletin* on November 20, 2004 (34 *Pa. B.* 6277). The Department held two public hearings on the proposal at the following Regional Offices of the Department:

December 21, 2004 Southeast Regional Office
Schuylkill River Conference Room
2 East Main Street
Norristown, PA 19401

December 22, 2004 Southcentral Regional Office
Susquehanna River Conference Room
909 Elmerton Avenue
Harrisburg, PA 17110

The public comment period for the proposed revision to the State Implementation Plan and the Sherwin-Williams Company Variance Request for Interior Wiping Stains closed on January 20, 2005. Oral testimony was offered by Mr. Gerald Thompson, Director of Research and Development/Quality Control/Regulatory Compliance of BonaKemi USA, Inc. Mr. Thompson's oral and written comments and other written comments received during the public comment period are summarized in this comment and response document. The identity of each commentator is indicated by the assigned number(s) in parentheses after each comment.

This is a list of individuals from whom the Department received comments regarding the above referenced application for a variance and proposed revision to the SIP during the public comment period.

1. Gerald E. Thompson
Director of R&D/QC/Regulatory Compliance
BonaKemi USA, Inc.
14805 E. Moncrieff Place
Aurora, CO 80011

2. David Fuhr
FUHR International, LLC.
PO Box 86
Winigan, MO 63566

3. Michael T. Murphy
Corporate Counsel
Rust-Oleum Corporation
11 Hawthorne Parkway
Vernon Hills, IL 60061

Comment 1. Sherwin-Williams' argument that "waterborne finishes failed to sustain an acceptable level of their original gloss" in the field test is inconsistent with claims made by Sherwin-Williams regarding one of Sherwin-Williams' products, and inconsistent with the results of a 10-year study conducted at Colorado State University to assess gloss retention and durability for water-based and solvent-based floor finishes. That study indicated that two water-based finishes outperformed all other types of finishes, demonstrating less wear-through, better scuff and scratch resistance and better visual appearance. (1 and 2)

Response: Minwax© claims on its website regarding the company's current 250 gram per liter VOC product, *Minwax© Water Based Polyurethane for Floors* (attached):

"Water-Based Polyurethane for Floors provides durability that is comparable to oil-based polyurethanes. It is significantly more durable than most water-based finishes available to consumers. In fact, independent laboratory tests show that Minwax© Water Based Polyurethane for Floors is 2-4 times more durable than leading retail water-based brands."

In its response to the comments from commentators 1 and 2, Sherwin-Williams indicates that it does not claim that the durability of its water-based polyurethane is equal to oil-based polyurethane, but rather asserts that its Minwax© product is "comparable" or similar in characteristic to oil-based polyurethane.

Inasmuch as Sherwin-Williams markets a product that Sherwin-Williams indicates "... is 'comparable' or similar in durability characteristic to oil-based polyurethane...", Sherwin-Williams has not demonstrated to the Department's satisfaction that it is technologically infeasible to formulate clear wood coatings-varnishes to comply with the VOC content limits of 25 *Pa. Code* § 130.603(a).

Comment 2. Sherwin-Williams presents a lengthy argument related to "panelization" resulting from the use of water-based floor finishes. Panelization is a situation where adjacent boards act as a composite panel instead of individual strips when subjected to changes in temperature and humidity as well as other site conditions. This phenomenon is not totally associated with water-borne finishes. Sidebonding - which is the finish related phenomenon - is but one cause of panelization, which can also occur with solvent-based finishes under certain conditions. These include, from the ASTM method: "Improper installation techniques, inadequate nail spacing, foundation settlement, large changes in moisture content of the wood, improper subfloor materials and over-drying of the floor are contributing causes of flooring panelization." (1 and 2)

Response: Sherwin-Williams in its response to the commentators indicates that, "... according to the Maple Flooring Manufacturers Association [MFMA],

panelization due to side-bonding is most closely related to waterborne finishes.” Information from the MFMA website indicates:

"Panelization" (or "sidebonding") is definitely not a new problem. It has, however, gained increasing attention as new EPA V.O.C. regulations have begun to affect the availability of traditional oil-based floor finishing products in many areas of the country.

While the development of "panelization" is certainly not limited to one brand of finish or to one particular subfloor design, the problem has been most closely associated with the use of water-based sealers and finishes on raw (untreated) maple strip flooring in areas of the country that experience distinctly different seasonal moisture conditions.

MFMA cautions installers and end-users that the use of some water-based finishes has produced a sidebonding effect that can result in localized excessive and irregular separations ("panelization") between maple flooring strips. MFMA advises, “We strongly recommend that end-users, project architects and specifiers consult with their flooring installer and finish manufacturer to obtain approved procedures for sealing and finishing a raw maple strip floor with water-based products.” (attached)

This information indicates that panelization is a phenomenon that predates water-based finishes. In addition, the information indicates that the problem has been associated with the use of water-based sealers and finishes on “raw (untreated) maple strip flooring” and not all flooring. Finally, the MFMA suggests that “end-users, project architects and specifiers consult with their flooring installer and finish manufacturer to obtain approved procedures for sealing and finishing a raw maple strip floor with water-based product.” This indicates that there are procedures that address the issue of panelization.

Sherwin-Williams has not demonstrated to the Department’s satisfaction that it is technologically infeasible to formulate clear wood coatings-varnishes to comply with the VOC content limits of 25 *Pa. Code* § 130.603(a) because of issues related to panelization.

Comment 3. Sherwin-Williams’ contention in the application for a variance that one of the varnishes produced by Bona presents a slip-and-fall risk has no validity. Every waterborne product in Bona’s line has been submitted to Underwriters’ Laboratories for slip-resistance testing at some point, and all have passed. (1 and 2)

Response: The Department has not independently evaluated the slip resistance of the Bona products nor has the Department evaluated the testing results submitted by Sherwin-Williams in its application for a variance to determine if the results are accurate.

While Sherwin-Williams has submitted information that a product manufactured by a competitor has failed to pass a certain test, Bona contends that all of Bona's coatings have passed Underwriters' Laboratories slip-resistance testing. Further, Bona indicates that it has never had a slip and fall case related to the product in the 10 years that the product has been on the market.

Whether a competitor's product has passed or failed a certain test is not germane to whether Sherwin-Williams has demonstrated to the Department's satisfaction that it is technologically infeasible for Sherwin-Williams to comply with the requirements of 25 *Pa. Code* § 130.603(a).

In its response to the comments from commentators 1 and 2, Sherwin-Williams indicates that "... each of The Sherwin-Williams Company Wood Care Group clear wood finishes intended for use on floors has been formulated and tested to meet the minimum 0.5 SCOF [Static Coefficient of Friction] requirement of ASTM D 2047 to be considered 'slip resistant'."

Sherwin-Williams has not demonstrated to the Department's satisfaction that it is technologically infeasible for Sherwin-Williams to comply with the requirements of 25 *Pa. Code* § 130.603(a) because of issues related to slip resistance.

Comment 4. If any of the arguments upon which Sherwin-Williams bases its claimed need for a variance are to be believed, Pennsylvania would need to draft a variance for every manufacturer in the country since each of these arguments – unsupported as they are -- would hypothetically apply to everyone, not just Sherwin-Williams. A variance for the varnish category would result in consumers and contractors alike shifting their purchases to existing products that they are in the habit of using. In this scenario, the only ones available would be Sherwin-Williams's products (Sherwin-Williams Variance Application, Exhibit A). The application for a variance submitted by Sherwin-Williams fails to demonstrate that the public interest in issuing the variance outweighs the public interest in avoiding increased emission of air contaminants. (1 and 2)

Response: Sherwin-Williams cited safety, durability, ozone forming potential and panelization as the principal "public interest" issues related to the request for a variance. The Department has determined that the Sherwin-Williams application for a variance does not demonstrate to the Department's satisfaction that the public interest in issuing the variance outweighs the public interest in avoiding the increased emissions of air contaminants that would result if the variance were issued.

Comment 5. The Sherwin-Williams petition for a variance is not based on the company's inability to produce complying products, but is really a request to have a marketing advantage in Pennsylvania by being allowed to sell higher VOC content varnishes while its competitors are required to comply with the limits in Section 130.603.

The commentator requests that the Department not grant the Sherwin-Williams' request for a variance. (3)

Response: The Department agrees that Sherwin-Williams has not demonstrated that it is technologically infeasible for Sherwin-Williams to produce complying clear wood coatings-varnishes. Therefore, the Department is denying Sherwin-Williams request for a variance from the limits specified in Section 130.603 for clear wood coatings-varnishes.

Comment 6. Sherwin-Williams' application does not meet the legal standard for granting a variance and must be denied. (1 and 2)

Response: The Department agrees. Section 130.606 (c) of *25 Pa. Code* Chapter 130 specifies that:

The Department will not grant a variance unless the applicant demonstrates in writing the following to the Department's satisfaction that:

(1) It is technologically infeasible for the applicant to comply with the requirements of § 130.603(a).

(2) The public interest in issuing the variance would outweigh the public interest in avoiding increased emissions of air contaminants that would result from issuing the variance.

(3) The compliance program proposed by the applicant can reasonably be implemented and will achieve compliance as expeditiously as possible.

Based on review and consideration of available information, the Department has determined that the application for a variance submitted by Sherwin-Williams does not meet the requirements of Section 130.606(c) (1), (2) or (3).