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November 4, 2020

Via Email
Mr. Joe Calavita
Manager, Consumer Products Implementation Division
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Subject: Comments to July 28, 2020 webinar for Method 310

On behalf of EMD Performance Materials please accept the following comments. EMD Performance Materials appreciates the opportunity to comment on the amendments to the Consumer Products Regulation. They are the Performance Materials business of Merck KGaA, Darmstadt, Germany. As the company behind the companies, their purpose is to advance digital living. This company is on an exciting journey to become a leading player in the electronics industry. Every day, they continue to see the development and introduction of new technologies that will continue to change the world as we know it. None of this will be possible without materials suppliers, like EMD, having the vision, commitment, and capabilities to invent new solutions. It is their ambition to be the partner of choice for those creating the innovations of tomorrow. The Performance Materials business of Merck KGaA, Darmstadt, Germany, operates as EMD Performance Materials in the US and Canada. Merck KGaA, Darmstadt, Germany is a global science and technology company with around 57,000 employees in 66 countries.

Our comments are solely on changes to Method 310.

Method 310

The following comments should be incorporated into Method 310 to clarify the issues surrounding polysilazane systems. These references will clarify the Method for future testing of these products.

These comments are to the draft Method 310 as proposed on 6/25/2020.

Section 2 references

Please insert an additional reference as follows, as the SCAQMD reference would be needed for the subsection insertion in section 3.

"Method 310 incorporates by reference the following ASTM International (ASTM), National Institute for Occupational Safety and Health (NIOSH), ~~and~~ United States Environmental Protection Agency (US EPA), and South Coast Air Quality Management District (SCAQMD), analytical test methods:

-2.1.41 SCAQMD Method 304-91, Determination of Volatile Organic Compounds (VOC) in Various Materials, revised February 1996"

3 Testing to Determine VOC

Please insert a new subsection as follows, which although established for "multi-package" coatings, provides the closest analogy to a polysilazane system, wherein moisture in the air provides one of the coreactants needed for a complete chemical reaction to occur. Note that SCAQMD Method 302-91, section 4.1.2 states: "For multi-package coatings wherein, at ambient conditions, one or more parts may contain coreactants that are volatile until a chemical reaction with another component of the multi-package coating has occurred:"

"3.3.9 For air-dried materials that may require more than one hour for the components to fully react, allow the sample to stand for 24 hours at ambient conditions before heating at 110°C for 60 minutes, using the following: SCAQMD Method 304-91, section 4.3.1.1.3."

4 Calculation of VOC Content

For non-aerosol products, please include a factor for ammonia in both equations, those that contain LVP-VOC as well as those that do not. The potential exists for ammonia to be present in either type of product. This calculation clarifies the role of ammonia.

"4.2.2.2 For non-aerosol products containing LVP-VOC, the percent VOC content shall be calculated using the following equation:

$$\% \text{ VOC} = [(1 - H) \times (1 - \text{LVP}) - A - \text{EL}] \times 100".$$

A = weight + fraction of ammonia (as NH_4) in a non-aerosol sample.

Summary

These additions to Method 310 will assist in dealing with polysilazane systems where moisture in the air provides one of the coreactants in a chemical reaction.

Again we appreciate the opportunity to comment on this important topic.

Any questions or comments please feel free to contact me at djraymond@me.com or at 440-339-4539.

On Behalf of EMD Performance Materials,
Sincerely,

Douglas Raymond

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