

MDEQ Proposes to Revise Definition of Volatile Organic Compound

The Michigan Department of Environmental Quality (MDEQ) has proposed to revise the definition of “volatile organic compound” or “VOC” under its air quality regulations. The revisions are intended to make the definition consistent with the United States Environmental Protection Agency (EPA) definition of VOC. This definition is relevant to numerous regulations and permits that regulate emissions of VOCs. VOCs are regulated because they react with sunlight and other chemicals in the atmosphere to form ozone/smog.

Currently, VOC is defined as “any compound of carbon. . . . that participate in photochemical reactions, excluding the following materials, all of which do not contribute appreciably to the formation of ozone:” The definition includes 54 different chemicals and classes of chemicals that are compounds of carbon but do not contribute to the formation of ozone/smog.

The proposed revisions would make numerous changes to the definition of VOC. First, the revisions would eliminate the requirement that a VOC “participates in photochemical reactions” even though the EPA definition of VOC applies only to chemicals that “participat[e] in atmospheric photochemical reactions.” Similarly, the MDEQ proposal would eliminate the statement that the chemicals excluded from the definition of VOC “do not contribute appreciably to the formation of ozone.”

Second, the proposal would eliminate the provision that excludes “ingredient compounds in materials other than surface coatings that have a vapor pressure less than or equal to 0.1 millimeters of mercury at the temperature at which they are used.” Vapor pressure is a measure of how readily a substance evaporates and materials that have a low vapor pressure (e.g. 0.1 millimeters of mercury) are relatively non-volatile and do not readily evaporate. These

substances include detergents and plastics. According to MDEQ, EPA will not approve this provision of MDEQ's definition of VOC for Michigan's Clean Air Act State Implementation Plan because EPA does not recognize a low vapor pressure exemption and this provision is, therefore, inconsistent with EPA policy.

Third, the proposal would eliminate a provision that allows MDEQ to approve alternative test methods for measuring VOC if the previously approved methods do not result in accurate or reliable results in a specific situation. According to MDEQ, EPA will not approve this provision because it provides too much discretion to MDEQ.

Finally, MDEQ's current definition of VOC excludes all of the chemicals that are excluded from the EPA definition of VOC with one exception: neither the current MDEQ rule nor the proposal would exclude methylene chloride (dichloromethane) from the definition of VOC. Methylene chloride, which is used in pharmaceutical manufacturing and other industries, has been excluded from the federal definition of VOC since the 1970s because it does not participate in the formation of ozone/smog. Nonetheless, Michigan and other states have elected not to exclude methylene chloride from their state definitions of VOC because of concerns about the possible toxic effects of methylene chloride in the atmosphere.

Over the past 20 years, numerous state and federal regulations have been developed specifically to address potentially toxic air contaminants, including regulations that target methylene chloride emissions. Therefore, because the definition of VOC and the regulations that rely on the definition of VOC are intended to regulate chemicals that create ozone/smog and are not designed to address the types of toxic effects potentially caused by methylene chloride, it is not clear whether any legitimate regulatory purpose is served by continuing to include methylene chloride in the definition of VOC.

The Michigan Manufacturers Association has submitted comments to MDEQ on the proposed changes to the definition of VOC. MDEQ has expressed a willingness to meet with interested parties to discuss solutions to the concerns that have been raised. If you are interested in participating in these discussions, contact Michael Johnston, Director of Regulatory Affairs of the Michigan Manufacturers Association at (517) 487-8554.

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