



TECHNICAL BULLETIN

LOW VOC AND ECO-FRIENDLY AEROSOL ADHESIVES



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Aerosol adhesives are as popular as they are portable and easy to use. Designed for a quick-and-easy spray application, aerosol adhesives are an incredibly convenient and versatile adhesive solution. Recent changes have made many aerosol adhesives eco-friendly, too.

In response to legislation limiting VOC (Volatile Organic Compounds) content, a new line of Low VOC aerosol adhesives was introduced in the 2010s. These laws are in effect because certain VOCs in some adhesive and sealant products react with nitrogen oxides. Nitrogen oxides react with sunlight, which leads to the formation of ozone and smog conditions in the air we breathe, causing respiratory problems.

Historically, California has taken the lead in crafting VOC limits through the California Air Resource Board (CARB). Other states in New England, the Mid-Atlantic, and the Great Lakes regions have developed their own rules for industrial and consumer products and are primarily based on the rules designed in California.

Since the 1990s, CARB has reduced allowable VOCs in aerosol adhesives sold in the state by almost 50 percent. The levels allowed were lowered in the early 2000s, with the specific level depending on the type of product. In 2015, CARB adopted new regulations for aerosol adhesives that reduced the allowable VOCs further and were enacted on January 1, 2017. These new limits

included lowering acceptable limits for mist-type aerosol adhesives from 65 percent to 30 percent by weight and 55 percent to 40 percent for web spray adhesives. With these regulations in place, manufacturers were put under further pressure.

The industry needed to reformulate a number of its aerosol adhesives to meet these regulations. 3M developed new aerosol adhesives that provided similar performance while meeting or exceeding regulatory limits. For example, 3M offers several low VOC aerosol products, such as 3M Hi-Strength Spray Adhesive 90 Low VOC. Alternatively, customers in less restricted areas can still use their legacy adhesive 3M Hi-Strength Spray Adhesive 90.

VOCs are harmful to the environment, and overexposure poses health concerns. Limiting and lowering VOCs are good for the environment and living organisms, and the option to use low VOC aerosol adhesives is a great first step to greener applications.

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