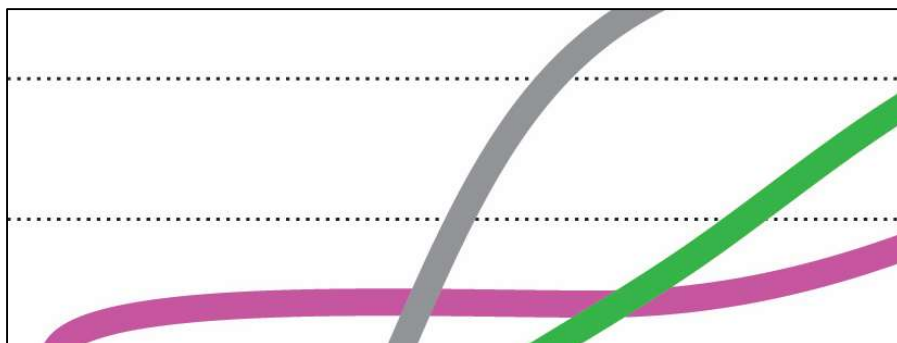


Product Sheet

DESICCANT TYPES AND PERFORMANCE

DESICCANTS FOR A VARIETY OF APPLICATIONS



Desi Pak® (Bentonite): Moisture Adsorbent

Desi Pak® bentonite clay is a naturally-occurring mineral. Desi Pak desiccants are an effective and economical moisture adsorbent option. A calcium-rich montmorillonite, Desi Pak's layered structure attracts and binds water molecules to its vast inner and outer surface area. Even at full water vapor capacity, Desi Pak remains dry and free-flowing with no apparent change in size, shape or texture. The adsorption capacity of

Desi Pak is considerable even at low humidity levels and increases as relative humidity rises. Desi Pak's adsorption rate is high enough to prove effective for most applications at low humidity. At high humidity levels, Desi Pak adsorbs moisture much more slowly than silica gel or molecular sieve, making handling less problematic. Desi Pak's adsorption capacity as a function of temperature remains constant at constant relative humidity between 20°C and 50°C.



Sorb-it® (Silica Gel): Moisture Adsorbent

Sorb-it silica gel desiccants are a synthetic material made of highly porous amorphous silicon oxide. Sorb-it binds water molecules in random intersection channels of various diameters and remains dry and free flowing, even after fully saturated with water vapor. Sorb-it's adsorption capacity is relatively small at low humidity levels but increases as humidity rises. At high humidity levels, Sorb-it adsorbs moisture much

faster than desiccant clay. Sorb-it's adsorption capacity as a function of temperature decreases slightly at constant relative humidity between 20°C and 50°C.



Tri-Sorb® (Molecular Sieve): Moisture and Odor/Gas Adsorbent

Tri-Sorb molecular sieve desiccants are the most aggressive of Clariant's desiccant options. Based on the synthetic zeolite (molecular sieve) types 3A, 4A and 13X, these zeolites exhibit crystalline structures with well-defined and uniform pores of 3Å, 4Å and 10Å diameters respectively. Tri-Sorb adsorbs water vapor and gas molecules that fit into the pores. The adsorption capacity of Tri-Sorb is relatively high at low humidity

levels and remains almost constant as relative humidity increases. The adsorption rate is also high at high humidity levels, where Tri-Sorb accepts moisture much faster than Desi Pak, making handling more difficult. The adsorption capacity of Tri-Sorb as a function of temperature remains constant at constant relative humidity and absolute humidity between 20°C and 50°C.



**DESVOCANT™ VOC Adsorbents (Bentonite):
Volatile Organic Compound Adsorbent**

DESVOCANT VOC Adsorbents are made from bentonite clay that is a naturally occurring mineral with a unique structure. They help control and eliminate the accumulation of volatile organic compounds (VOCs) due to the off-gassing of products enclosed in packaging to fully-loaded shipping containers. The complex, unique, layered structure of clay granules attracts and binds VOCs through adsorption. This process removes VOCs from the air, trapping them within the adsorbent package.

ALSO AVAILABLE:



Carbon - Odor and Gas Adsorbing Packs

Odor and gas adsorbing packs are designed to control objectionable odors and gases within packaged products. Made of activated carbon, they have a highly porous structure and surface area that attracts and bonds with gases and volatile organic molecules. An odor and gas adsorbent pack is capable of adsorbing 50 percent of its weight of carbon tetrachloride (tetrachloromethane) at 25°C.

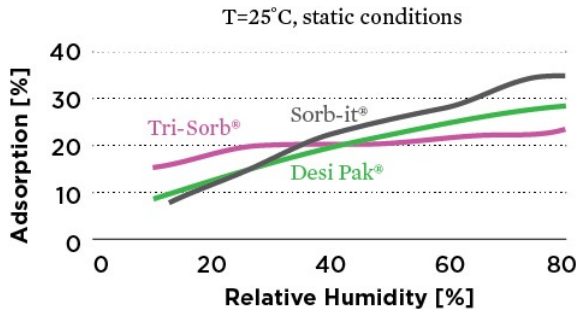


Bentonite or Silica Gel with Carbon - Moisture and Odor/Gas Adsorbing Packs

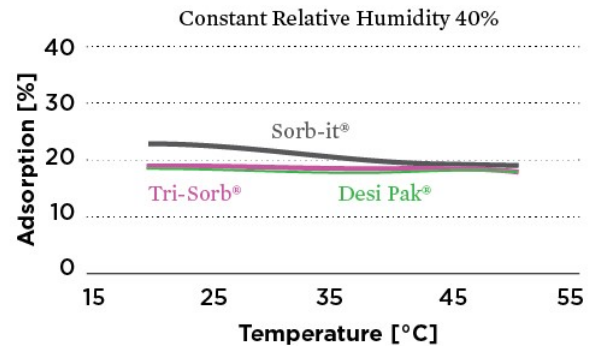
Activated carbon combined with either Bentonite or silica gel to control moisture, gas, and odors simultaneously.

PERFORMANCE DATA: Desi Pak®, Sorb-It®, and Tri-Sorb®

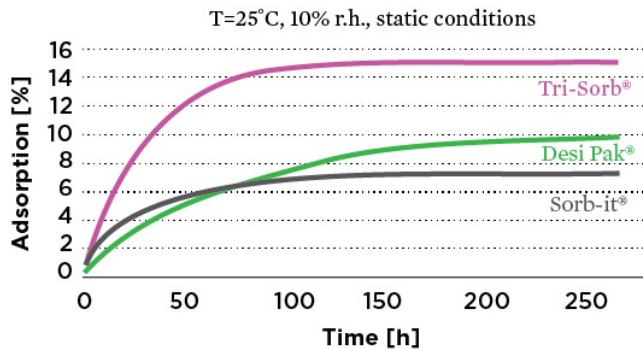
1. Adsorption capacity as a function of RH



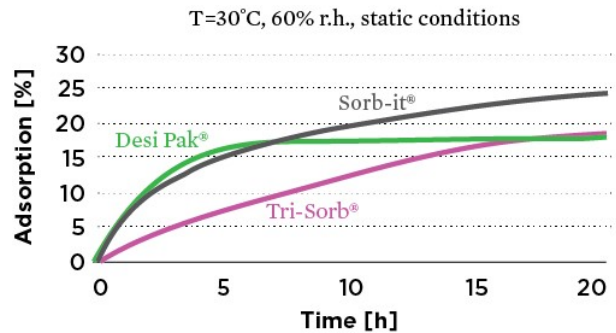
2. Adsorption capacity as a function of temp. @ constant RH



3. Adsorption rates at low humidity levels



4. Adsorption rate at high RH



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