

# Desiccant Performance

## Data

### **Desi Pak® (Bentonite Clay): Moisture Adsorbent**

Süd-Chemie's Desi Pak bentonite clay desiccants are an effective and economical desiccant 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. Desi Pak products can be reactivated for multiple uses.



*Desi Pak®  
(Bentonite clay)*

### **Sorb-It® (Silica Gel): Moisture Adsorbent**

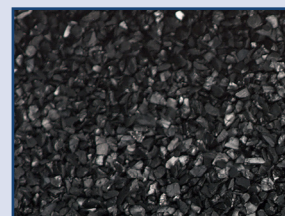
Süd-Chemie's Sorb-It desiccants are made of highly porous amorphous silicon oxide. Sorb-It binds water molecules in random intersection channels of various diameters and remains dry and free-flowing, even after fully saturated with water vapor. Sorb-It's adsorption capacity is relatively small at low 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. Sorb-It products can be reactivated for multiple uses.



*Sorb-It® (Silica gel)*

### **Getter Pak® (Carbon): Odor and Gas Adsorbent**

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



*Getter® (Carbon)*

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

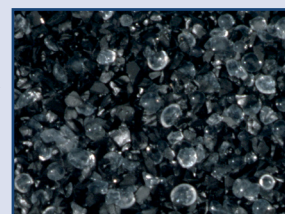
Tri-Sorb molecular sieve desiccants are the most aggressive of Süd-Chemie's desiccant options. Based on the synthetic zeolite (molecular sieve) types 3A, 4A and 13X, these zeolites exhibit crystalline structures with well-defined and uniform pores of 3Å, 4Å and 10Å diameters respectively. Tri-Sorb adsorbs 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.



*Tri-Sorb®  
(Molecular sieve)*

### **2-in-1 Pak® (Carbon and Bentonite Clay or Silica Gel): Moisture and Odor/Gas Adsorbent**

Süd-Chemie's 2-in-1 products combine activated carbon with either bentonite clay or silica gel to control moisture, gas and odors simultaneously. See details above.

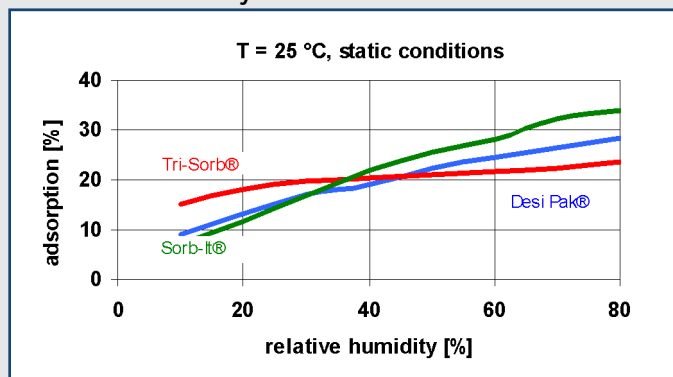


*2-in-1® (Carbon combined with  
silica gel or bentonite clay)*

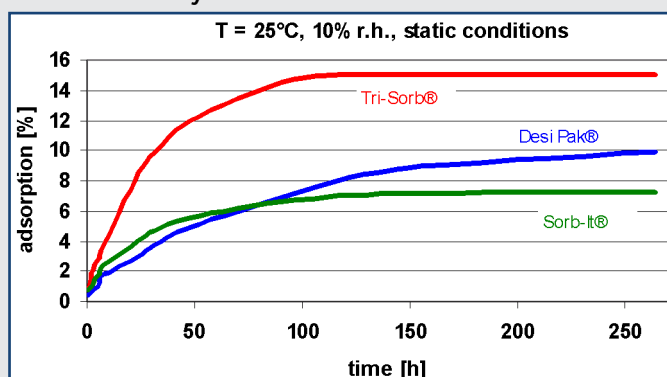
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## Technical Performance Charts

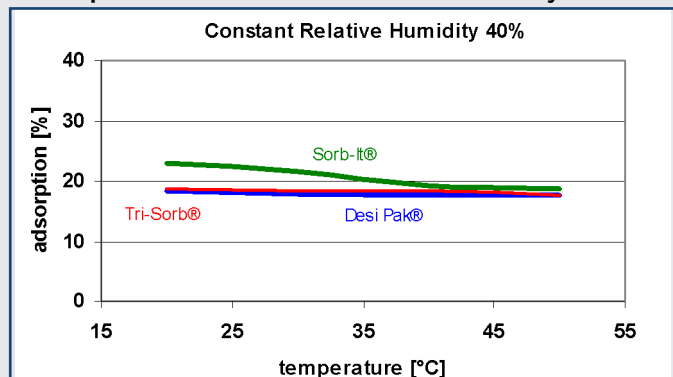
1: Adsorption capacity as a function of relative humidity



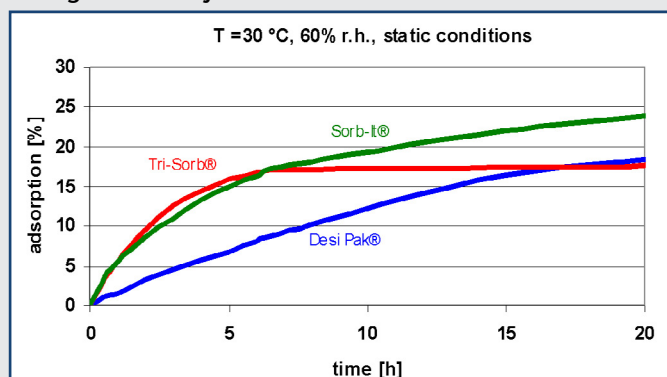
2: Adsorption rates at low humidity levels



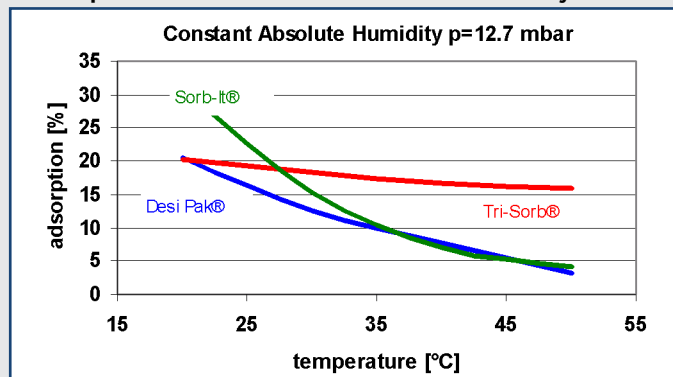
3: Adsorption capacity as a function of temperature at constant relative humidity



4: Adsorption rates at high humidity levels



5: Adsorption capacity as a function of temperature at constant absolute humidity



6: Adsorption rate of Getter

