



Since 2004, IntelliSorb sorbents have regulated moisture in packaging to help pharmaceutical and diagnostic companies balance the physical and chemical stability of their products.

When a conventional desiccant won't do

IntelliSorb moisture regulating sorbents are highly customizable intelligent sorbents that play the role of environmental managers within a device or drug packaging. They can be formulated and sized appropriately to regulate:

- ✓ equilibrium relative humidity (ERH) to a specific range within packaging headspace, and
- ✓ the water activity (a_w) of the drug product.

IntelliSorb compensates for changes in external RH% (relative humidity) and balances moisture within the package to a targeted ERH, by adsorbing or releasing moisture as needed.

When high external RH% conditions cause moisture migration into the package:

- ✓ RH increases in bottle headspace.
- ✓ IntelliSorb adsorbs moisture to meet desired ERH target.



When low external RH% conditions cause moisture migration out of the package:

- ✓ RH decreases in bottle headspace.
- ✓ IntelliSorb releases moisture to meet desired ERH target.



Market Challenges

- Gelatin capsule cracking and brittleness
- Cracking of gel- and aqueous-based tablet coatings
- Unstable drug and diagnostic chemistries
- Physical instability and triboelectrification of DPI formulations and devices

IntelliSorb DataFacts

Applies to all packaging platforms:

- ✓ Can manage moisture to a specific ERH target (+/- 5%) within the range of 10% - 95% ERH
- ✓ Closely controlled manufacturing process assures consistent and reliable ERH
- ✓ Can be combined with activated carbon for adsorption of volatiles
- ✓ FDA approved (21 CFR-compliant) materials suitable for direct pharmaceutical contact
- ✓ USP <670> compliant
- ✓ Type III Drug Master File (DMF) on file for all IntelliSorb platforms
- ✓ High quality, virtually indestructible designs
- ✓ Non-dusting, lint-free products



Packets

- ✓ Standard sizes range from .25g to 15g
- ✓ Custom sizes available upon request
- ✓ Made from welded uncoated medical grade Tyvek® (high-density polyethylene fibers)
- ✓ Industry leading, sleek packet design with registered print



Canisters

- ✓ Standard sizes up to 1g
- ✓ Made from high-density polyethylene (HDPE)
- ✓ Single piece canister design with welded porous end caps
- ✓ Label-free product identification printed directly on canister



Compressed Canisters and Components

- ✓ Delivers twice the adsorbent capacity as a similarly sized conventional sorbent
- ✓ Compressed format available in canister and other shapes
- ✓ Compressed canisters available in standard 1g, 2g, 3g, and custom sizes
- ✓ Components can be sized and shaped to fit specific applications

All information provided herein by Multisorb as product literature or technical information ("Information") is believed to be accurate and true given Multisorb's current knowledge and expertise. However, Multisorb offers no express guarantee thereof. Additionally, MULTISORB MAKES NO EXPRESS OR IMPLIED WARRANTIES AS TO THE INFORMATION'S MERCHANTABILITY, SUITABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE RELATIVE TO ANY PRODUCT OR SERVICE. It is the responsibility of the customer to determine to the appropriateness of the Multisorb product for the customer's purpose and comply with all applicable laws, rules and regulations. Multisorb shall not be liable for any incidental, special, direct, indirect and/or consequential damages involving the use of the Information and/or Multisorb's products. Nothing herein shall be deemed to vest in any party any right, title, interest or license in or to Multisorb's intellectual property. Nothing herein waives Multisorb's Terms of Sale. Multisorb's Material Safety Data Sheets (available upon request) should be consulted and utilized for further safety precautions when using, handling and storing Multisorb products.