

Product Sheet

EQ-CAN[®] & EQ-PAK[®]

CLARIANT 

EQUILIBRIUM RH STABILIZERS



Purpose

The EQ line of products maintains humidity equilibrium in pharmaceutical and nutraceutical packaging, in cases where specific relative humidity conditions are required.

What are they?

Specially engineered sorbents from Clariant, EQ-CAN[®] canisters and EQ-PAK[®] packets perform as a humectant (desorber) and desiccant (adsorber) simultaneously, maintaining a particular equilibrium relative humidity (ERH) inside product packaging.

Why use them?

Some pharmaceutical and nutraceutical products are susceptible to stability issues or degradation if they are exposed to either too much moisture or the package environment becomes overly dry. Many products need to maintain both their water content and water activity in order to maintain integrity. Excessive humidity can cause an active pharmaceutical ingredient to absorb moisture, resulting in deliquescence, decomposition or chemical instability of the drug. And for some products, an overly dry package environment can accelerate efflorescence or cause cracking.

In the case of Dry Powder Inhalers (DPIs) excessive moisture can increase adhesive and cohesive forces, and excessive dehydration can increase electrostatic charge of particles. Both issues can affect the optimal deposition of the powder during inhalation.

Thus, there is often a need to maintain a particular relative humidity range inside product packaging to avoid extreme changes in the relative humidity of the package environment during the product's shelf-life. Instead of addressing these issues in the pharmaceutical formulation – a potentially costly, time consuming or sometimes impossible option – manufacturers can utilize the EQ line of sorbents to maintain a desirable ERH range inside product packaging.

The EQ line of products meets relevant US FDA and EU standards for direct food contact.

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Available Configurations

Both canisters and packets can be customized to specific applications. Packets are ideal for DPIs or other flexible packaging applications, whereas canisters are conducive to high speed automatic insertion into pharmaceutical bottles.

Standard product configuration:

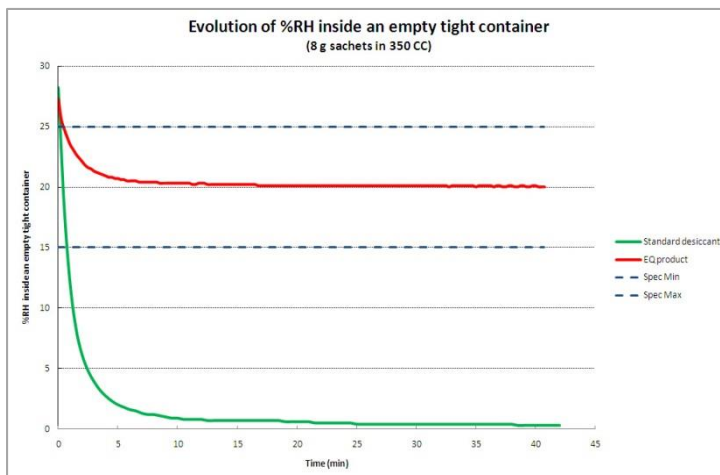
- EQ-Can: 3.1 grams
- External diameter: 17.9 mm
- Height: 22.5 mm
- 20% RH

Customizable configurations:

- EQ-Can: 1 gram to 3 grams
- EQ-Pak: 1 gram to 255 grams.
- EQ-Stopper
- Humidity thresholds from 10% to 30% RH

Key Advantages

- Maintain an ideal package environment within a calibrated humidity level
- Control water activity affecting dissolution rates
- Protect sensitive products including Dry Powder Inhalers (DPIs), hard and soft gelatin capsules, rapid release tablets and dental materials



Whether in packet or canister form, Clariant can adjust sorbent formulations to achieve and maintain various ERH levels in pharmaceutical packaging.

Standard desiccants (green line) maintain a dry environment inside packaging, while Clariant's EQ-CAN® and EQ-PAK® maintain a particular Equilibrium Relative Humidity (ERH) (within specified tolerance levels).

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