



HUMIDITY NEUTRAL OXYGEN SCAVENGERS

PharmaKeep® is an innovative line of polymer-based oxygen scavenging capsules and packets, developed and distributed jointly by Airnov Healthcare Packaging and Mitsubishi Gas Chemical Company, Inc. (MGC). PharmaKeep oxygen scavengers extend the shelf life and efficacy of pharmaceutical and nutraceutical products by protecting against oxygen degradation and oxidative reactions.

- **Humidity neutral:** PharmaKeep is humidity neutral, absorbing oxygen at either low or high relative humidity levels, and can be used in conjunction with a desiccant. Compared to Iron based oxygen scavengers, Pharmakeep will not release moisture to the drug product.
- **High speed insertion:** Due to their rigidity, PharmaKeep capsules can be used on high-speed insertion machine, typically feeding 300 to 600 capsules per minute. Packets can also be automated by using roll form packets.
- **Full protection:** PharmaKeep can be paired with Airnov Oxynov™ oxygen barrier bottles for an efficient protective package solution.
- **Degradation avoidance:** With Pharmakeep, the chemical and physical degradation of drug products can be mitigated, sometimes visible in extreme color change.

with Pharmakeep



without Pharmakeep



Oxidative degradation – besides moisture – is one of the major pathways for degradation of pharmaceuticals, probiotics and other healthcare products during production, isolation processes and storage.

Airnov offers various configurations of PharmaKeep canisters and packets to accommodate different packaging needs.

PharmaKeep capsules (CD) and Pharmakeep packets (KD) have equivalent absorbing function and are available as two-in-one moisture and oxygen absorbing products.

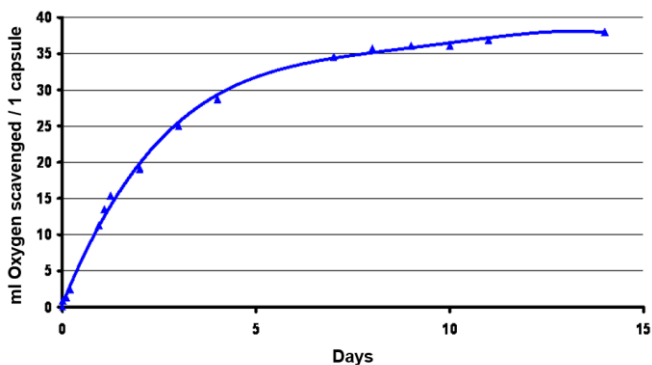
Specified Performance of PharmaKeep products

(evaluated at 25°C, 75%RH, 7 days; refer to our measurement method of Pharmakeep performances)

Capsule CD-1G & Packet KD-10S: >10ml oxygen & >0.07g moisture.

Capsule CD-2.15G & Packet KD-20: >20ml oxygen & >0.15g moisture.

Packet KD-400: >400ml oxygen & > 3g moisture.



Oxygen absorption capacity is specified at 20 ml of O₂ per CD-2.15g at day 7.



Pharmakeep oxygen scavengers are available in capsule and packet configuration

Pharmakeep® canisters & packets comply with FDA & EU regulations for use in pharmaceutical applications and are registered in a Drug Master File.

The information corresponds to the present state of our knowledge and is intended as a general description of our products. Airnov makes no and disclaims all warranties, express and implied, including but not limited to merchantability, suitability, fitness for a particular purpose, title, regulatory compliance, and all warranties arising from conduct, course of dealing or custom of trade, as to the information's accuracy, adequacy, sufficiency or freedom from defect, and assumes no liability for any indirect, incidental, consequential, special or punitive damages arising from this document, the information contained therein, or the sale of goods. Oral statements made by Airnov's employees or agents, or statements made in Airnov's general advertising or printed materials do not constitute warranties. Any user of this product is responsible for determining the suitability of Airnov's products for its particular application.*Nothing included in this information waives any of Airnov's General Terms and Conditions of Sale, which control unless it agrees otherwise in writing. Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing Airnov products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products. For additional information, please contact Airnov.

Pharmakeep® is a Trademark registered by Mitsubishi Gas Chemical Company, Inc. Mitsubishi Building, 5-2, Marunouchi 2-chome Chiyoda-ku, Tokyo, Japan.

Oxynov™ is a Trademark protected by Airnov

© 2020 Airnov Healthcare Packaging – Version 03 of 07/07/2020

