

MODIFIED ATMOSPHERE PACKAGING WITH MULTISORB TECHNOLOGIES

Reliability is a key design objective for electronic components and devices; particularly those which must operate under adverse conditions. Moisture, oxygen and corrosive volatiles can lead to the failure of electronic devices. For every producer of electronic components who depends on performance and reliability, malfunctions are unacceptable. Multisorb offers a variety of solutions for enhancing product performance, minimizing failures, limiting warranty claims, costly recalls, and liability issues.

Multisorb offers custom and pre-engineered sorbent solutions to extend service life and improve overall device quality. Our sorbent formats range from forms that can be dropped into packaging, to configured solid forms which can be fit into a component part or built into an electronic device as a multi-functional device component.

Multisorb's engineers and scientists represent a highly effective support team that can demonstrate new ways of ensuring product reliability while helping to protect brand value and product integrity. Multisorb's straightforward mission: Develop and manufacture the most successful, cost-effective solutions for customer and market challenges.



Consumer



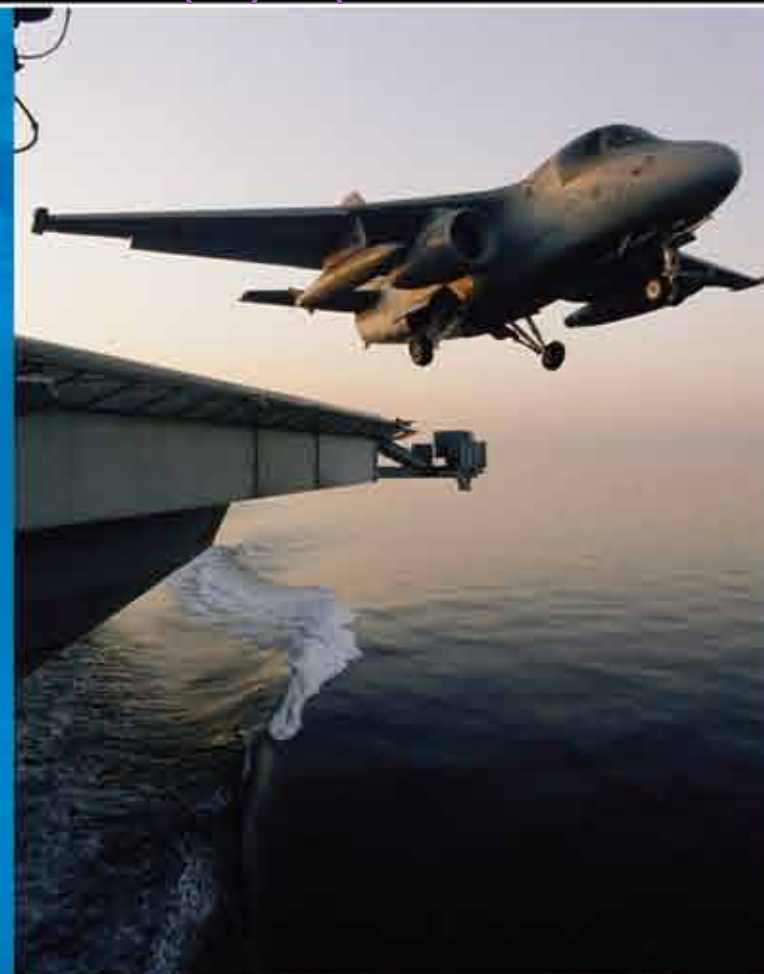
A wide variety of consumer applications, ranging from computer hard-drives, gaming devices, mobile communications, satellite receivers, and digital imaging to the next generation of electronic products, experience failures that can be prevented. Consumer usage seems to increase exponentially, with reliability and performance driving product design. While some requirements are limited to product protection during distribution and shipping, many devices demand sophisticated sorbent solutions for normal operation. To meet these demands, Multisorb offers breather and bypass filtration, moisture regulation, adsorption of volatile organics and acids, and moisture indicating technologies.

Radar & Telecom



Operational reliability of aircraft radar domes and telecommunication antennae are impeded by both moisture and water vapor. The radar horn, or chamber through which microwaves pass, can attenuate signals when affected by moisture. Multisorb solutions keep signal strength consistent and minimize intermittent shorts. Our products offer shock resistance, cleanliness, and moisture control in a single product solution.

Defense



Multisorb products can be applied to target acquisition, guidance systems, ordnance, IR imaging and more. Hardware requirements and the potential sources for malfunction or shortened life cycle can vary significantly. Failsafe and zero-defect operation is critical. Laser reliability is also critical. Multisorb sorbents prevent water vapor from condensing on the optics, thus preventing false target acquisition or other damage to the optics. Our ability to optimally shape the sorbent for location in the laser means bypassing expensive mounting schemes typical with other options. Multisorb is an approved Tier One subcontractor for the military and offers solutions that meet or exceed MIL-Spec. Multisorb has a CAGE Code that is used for vendor identification of military suppliers serving the industry for over 45 years.

Electronics Packaging



The JEDEC specification for shipping components currently recommends Multisorb MiniPax and Humidity Indicating Cards. There are alternatives, however, for storage and shipment of particularly sensitive devices and components. Flexible, semi-rigid, and rigid packaging with protection built in may be available for your application.

ACTIVE PACKAGING SOLUTIONS



Multiforms® Multisorb has introduced a greatly expanded line of its popular Multiforms Pressed Sorbents intended for use in a wide variety of applications. Now available in a wide range of shapes, with molecular sieve, silica gel, indicating silica gel or activated carbon desiccant media.

PolySorb™ is a non-dusting ISO Class 7 (100,000 ppm) ISO Class 8 (10,000 ppm capability), active, reinforced resin designed specifically to your application in the form of a structural component or dual functioning component of a device. It can be used to mold or form an enhanced barrier device housing.



Natrasorb 900™ An activated crystalline silico-aluminate with organic binders which gives the finished desiccant properties similar to those of thermoset plastics. It will readily adsorb moisture, but its high density slows the rate of adsorption. This is a decided advantage in assembly operations, since it restricts the amount of moisture the desiccant will pick up during handling.



Humonitor® Humidity Indicator Cards monitor desiccant activity and are ideal for use in any application where moisture control is critical. Our Cobalt-Free cards do not contain heavy metals.



Multiform CSF™ offers a compact coated solid form sorbent material that can provide twice the adsorbent capacity of a similarly sized conventional sorbent. If you have space constraints that limit the room for sorbents or require a special shape for your sorbent, then Multiform CSF is your answer.



www.multisorb.com
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Solar Panels/Batteries

Aviation / Marine

Industrial

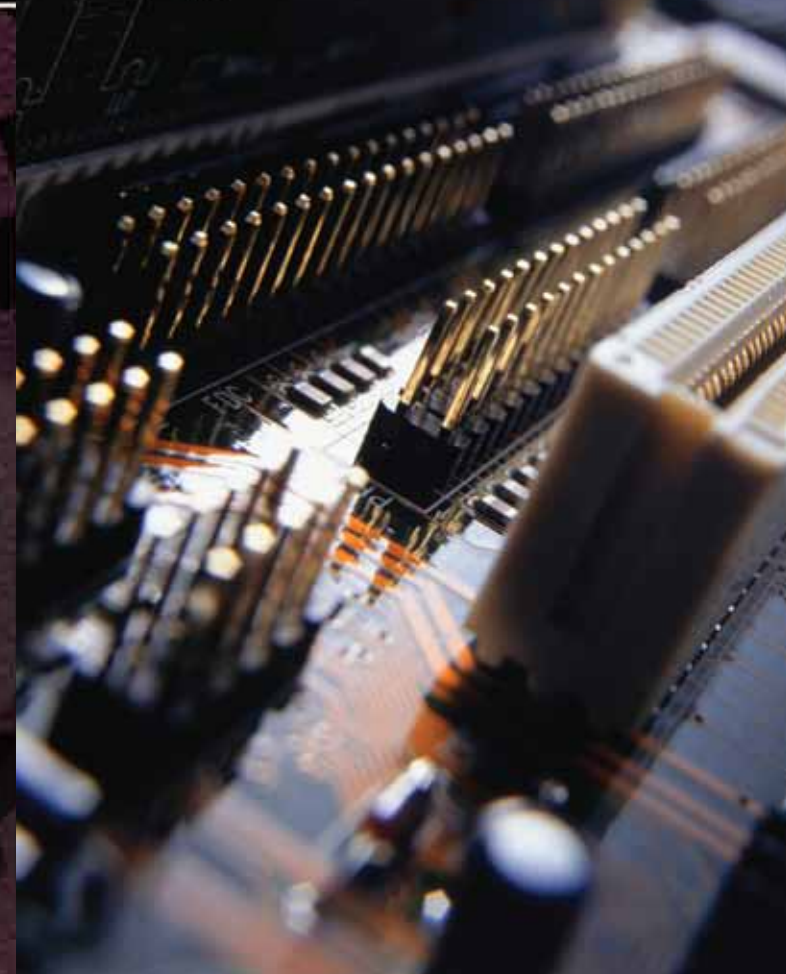
Automotive

Dispensing Systems

Teaming Up With Multisorb



At Multisorb Technologies we consult very closely with our customers. Teamwork on your project starts by carefully gathering detailed information to ensure our complete understanding of the project and any special needs. Technologists will analyze it and offer application recommendations specific to your needs, usually within 24 hours. Multisorb's detailed approach with customers gives us greater understanding of your processes, allowing Multisorb to make the best recommendations for each particular situation.



Current solar panel technology, based on thinly sliced mono and polycrystalline silicon wafers with printed and welded stainless steel wires encapsulated in EVA, is extremely susceptible to oxidation. TPT or Tedlar-Polyester-Tedlar, a fluoropolymer, is extensively used to protect the silicon and circuitry from oxidation. But the water vapor transmission rate for TPT is inefficient. Multisorb has developed a sorbent that provides 15 to 20 years of moisture protection at relatively high outdoor conditions for this application. Our R&D team can consult with you to develop unique high performance solutions for maximizing panel efficiency and minimizing costs.

Multisorb sorbents are engineered to reduce environmental and atmosphere-related problems encountered in avionic sensors and controls, radar, communication equipment, and a variety of lasers. Challenges range from performance/reliability issues to problematic situations such as condensation build-up in navigational lighting. Given the dependence on sensing devices in both military and commercial aircraft, and the extreme pressure, temperature variations and humidity to which they are subjected, control of moisture and vapor control is essential. Multisorb's design-in technologies are used in a host of applications to control adverse conditions that impair reliability of this sophisticated equipment.

All types of machinery and equipment can be exposed to conditions which can slow performance, create down-time difficulties or otherwise deter operations. In the food processing industry, for instance, much of the food contact equipment is designed for CIP (clean-in-place) and, as such, is regularly washed down exposing sensors, instrumentation, and controls to heat, moisture, and strong cleaning agents. Security cameras and surveillance systems often malfunction in harsh environments. Multisorb offers an extensive array of sorbent solutions, each one intended to provide maximum reliability and performance. Multisorb's engineers and scientists can develop the right methodology with custom formulated solutions to reduce or eliminate problems before they occur.

Automobile manufacturers confront the challenges of increasing dependability and the service life requirements of a myriad of devices starting with batteries, extending to air bags, under-hood control units, and electro-optical devices. Because automotive electronic components are continually exposed to adverse and rapidly changing environmental conditions, failure is always possible. While not always readily apparent or predictable, malfunctions need to be controlled and/or eliminated. From the latest night vision systems, back-up cameras, crash avoidance technologies and more, Multisorb sorbent technologies can, and do, play a critical role. Whether it's fit-in or built-in, Multisorb can help you identify effective and economical solutions.

The Multisorb Active-Pak Automation Dispenser is designed to meet all application needs with speeds up to 300 sachets per minute and the capability of integration on atmosphere controlled lines. The Multisorb dispenser series has a machine to fit your sorbent dispensing needs. The dispenser is suitable for flow wrapping, HFFS, VFFS and can be equipped with a nitrogen purge system.

Our engineers are available to discuss any electronic packaging issue. All Multisorb Technologies products are manufactured in the U.S.A. at our Buffalo, New York cGMP compliant plant. We are an ISO 9001 facility with ISO Class 7 & 8 clean rooms. The plant is always open for customer inspections.

Active Packaging Solutions for Electronic Applications

