

ActivDri™ CAP-50A Capsule

Technical Data Sheet

ZERUST®/EXCOR® ActivDri™ CAP-50A is a dual-action moisture control capsule designed for enclosed industrial and electrical applications. It incorporates ZERUST® Intelligent Counter-Corrosion Technologies (ICT®), releasing slow and fast-action Vapor Corrosion Inhibitors (VCI) that form a protective molecular layer on exposed metal surfaces while simultaneously reducing moisture levels that accelerate corrosion during operation, shipping, and storage. The patent-pending technology delivers dual-action protection by combining high-capacity desiccant performance, which absorbs up to 100% of its weight in moisture, with a moisture-activated VCI release that responds to rising humidity to provide on-demand corrosion protection. In high humidity environments, ActivDri™ CAP-50A provides up to 300% greater moisture adsorption capacity compared to traditional desiccants such as silica gel, making it significantly more effective in corrosion prevention, even outperforming combinations of desiccants with VCI emitters. The VCI chemistry is invisible, odorless, non-toxic, and dissipates upon enclosure opening, allowing immediate painting, welding, or further processing. Its design, featuring an adhesive backing, also allows the capsule to be securely positioned in any appropriate location within the enclosure to suit specific application needs.

The ActivDri™ CAP-50A Capsule utilizes a recyclable outer shell made from FSC-certified recycled cardboard and when recycled, the product significantly reduces landfill waste compared to conventional VCI emitters, making it a more environmentally friendly product. Additionally, ActivDri™ CAP-50A Capsule complies with Global Automotive Declarable Substance, TSCA, REACH, RoHS, and TRGS615 requirements.

Typical Properties

Appearance	Black and yellow cardboard box with adhesive backing, containing a white non-woven sachet inside.
Substrates	Multimetal protection. ActivDri™ CAP-50A chemistry is designed for ferrous metals (carbon steel, silicon steel, stainless steel, cast iron), aluminum, silver, and yellow metals.
Vapor Inhibiting Ability (VIA)	Pass (NACE TM0208)

This data sheet provides general guidelines for operation, application, and removal. Please contact your ZERUST®/EXCOR® account representative for more specific recommendations on your particular operation and conditions.

Operating Summary

- Remove the ActivDri™ CAP-50A Capsule from its individual plastic packaging. Do not disassemble / open the capsule/cardboard box (it is part of the structure of the capsule).
- Mark or take note of the installation date. ActivDri™ CAP-50A Capsules are rated to provide up to 1 year[#] of protection (See **Protection Info** on page 2 for specific protection capabilities).
- Place the ActivDri™ CAP-50A Capsule in the most ideal location possible, following the principles below:
 - Center: The ideal location to obtain maximum coverage of protection from the capsule. This position may not be possible if the center is occupied.
 - Corner: In deeper enclosures, two capsules may be required on diagonally opposed corners to fully protect the entire space.
 - Sides: This is practical for most applications and provides the optimum side-mounted protection.
- Ensure that the airflow to the enclosure is restricted. It is essential to restrict airflow to the container, as airflow removes the protective vapor chemicals from the space faster than it can be released from the ActivDri™ CAP-50A Capsule.
 - When applying an ActivDri™ CAP-50A Capsule within enclosures where the air is replaced regularly, such as air-cooling systems for computer equipment, it is recommended to place the capsule close to the source of airflow. For added corrosion protection, consider placing an additional ActivDri™ CAP-50A Capsule near the sensitive metal surface to be protected. In high-airflow environments, more frequent replacement of the ActivDri™ CAP-50A Capsule may be required to maintain effective moisture and corrosion protection.
- Ensure the metal parts and/or electrical components requiring corrosion protection are clean and dry.
- Attention:** Data loggers cannot be used to detect humidity in an enclosure or package during a shipment, as ActivDri™ VCI chemistry affects the accuracy of humidity detection.

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product information
and photos

Availability

ZERUST®/EXCOR® ActivDri™ CAP-50A Capsules are in stock for immediate delivery, sold in cases. Contact your ZERUST®/EXCOR® representative for ordering information.

Part Number	Model	Quantity
375-M-00227	ActivDri™ CAP-50A	60/Case

Protection Info[‡]

Model	Product Dimensions* W x H	Normal Environment**	
		Protection Volume (Up to) [‡]	Protection Duration (Up to) [‡]
ActivDri™ CAP-50A	3.5" x 5" x 1"	35 ft ³ (1.0 m ³) [‡]	1 year [‡]

* +/- 10%.

** Normal environment (below 0.2 ppm SO₂)

Moisture Adsorption Capacity (% wt of product) Compared to Common Desiccants

Product Name	60% RH/77°F	70% RH/77°F	80% RH/77°F	85% RH/77°F	90% RH/77°F	95% RH/77°F
ActivDri™ CAP-50A	14.03%	21.93%	38.68%	49.13%	64.98%	80.50%
Clay	20.50%	22.80%	25.53%	26.82%	29.42%	31.98%
Silica Gel	30.49%	33.15%	34.00%	33.97%	34.59%	34.85%
Product Name	60% RH/113°F	70% RH/113°F	80% RH/113°F	90% RH/113°F	95% RH/113°F	98% RH/113°F
ActivDri™ CAP-50A	12.2%	22.2%	43.3%	78.5%	122.8%	139.1%
Clay	19.7%	22.0%	24.7%	29.5%	32.9%	35.4%
Silica Gel	26.3%	28.9%	29.1%	30.0%	32.5%	33.9%

Storage

- Store in a cool, dry place and away from sunlight in the original packaging.
- Optimal storage temperature is < 85°F (29°C) and 50% RH for up to 2 years from the date of shipment.
- Unused ActivDri™ CAP-50A Capsules should be immediately placed back into the original container (inner plastic bag) and sealed for storage.

Disposal

- The contents of ActivDri™ CAP-50A Capsules are not hazardous waste according to 40 CFR 261 (no components listed on F, K, P, or U lists; not ignitable, not corrosive, not reactive, and not toxic).
- The ActivDri™ CAP-50A outer box is recyclable. However, you must first remove and dispose of the internal sachet separately before recycling.
- The inner sachet of ActivDri™ CAP-50A Capsule may be disposed of in general solid waste trash.
- Since regulations vary by location, ZERUST® advises our customers to review local regulations to ensure proper disposal.

Precautions

- Do not install the capsule where it will be submerged in water.
- ActivDri™ users sensitive to odors may detect the presence of an ammonia-like odor when opening the original container of ActivDri™ CAP-50A Capsules. For such users, it is recommended to open the ActivDri™ CAP-50A Capsule container in a well-ventilated room before use.
- Avoid placing metal surfaces in direct contact with wood or cardboard (sources of moisture and acid).
- Do not disassemble unless for disposal. Keep away from children. Safe for people. This product does not pose a health hazard to users based on its classification as an article according to UN GHS, US OSHA HazCom, and CA WHMIS regulations. Check REACH SDS for classification in EU.
- Refer to the Safety Data Sheet (SDS) for more safety information.

‡ DECLARATION

Corrosion protection claims are based on Northern Technologies International Corporation (NTIC) internal laboratory testing performed under controlled parameters on contaminant-free substrates. Real-world application corrosion protection duration on different substrates will vary and depends on factors such as, but not limited to, the application or use, environmental / storage conditions, surface cleanliness, type of substrates, and coating thickness (where applicable). The use of the term "Up to" in reference to time is defined as any time duration from zero up to a specified time frame, but in no event beyond the specified time frame. The use of the term "for years" is based on NTIC's experience with its products but is in no way guaranteed. The use of the term "Up to" in reference to volume is defined as any volume from zero up to a specified volume but in no event beyond the specified volume of protection. It is the customer's / user's obligation to evaluate product performance, corrosion protection duration, safety, and suitability for intended use within the scope advised in the data sheet and to comply with all applicable laws and regulations. **LIMITED WARRANTY/DISCLAIMER** Warranty is limited to the replacement of a product that fails to meet specifications. For full warranty and disclaimer information, visit www.zerust.com/warranty.

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