



# TECHNICAL DATASHEET

**PRODUCT NAME** – CHARMIL DESICCANT

**PRODUCT CODE** – CHARMIL CLAY

## PRODUCT DESCRIPTION

Charmil Desiccant is made from naturally occurring clay minerals designed to effectively absorb moisture from the surrounding environment. Compared to silica gel and other synthetic alternatives, clay-based desiccants offer a more eco-friendly solution due to their safe handling and easier disposal characteristics.

A desiccant functions as a moisture control agent, reducing humidity levels within enclosed spaces such as moisture barrier bags, packaging containers, and storage units. This helps protect products from damage caused by excess moisture during storage and transportation.

Charmil Desiccant is available in convenient fractional units, making it adaptable for different packaging sizes and applications. The quantity required depends on multiple factors such as:

- Internal volume of the packaging
- Ambient conditions during packing
- Desired shelf life or protection duration
- Transportation method
- Ventilation and exposure conditions

Each pouch is sealed in a high-strength, leak-resistant film to prevent moisture re-release and ensure long-lasting performance. This packaging also enhances durability during handling and transit.



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**Precaution:** Avoid direct contact of the pouch with metal surfaces, as moisture absorption may sometimes cause slight sweating.

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Charmil Desiccant complies with international standards such as DIN 55473 and MIL 3464E, ensuring reliability and performance across industrial applications.

## AVAILABLE SIZES

Charmil Desiccant is offered in a wide range of standard sizes to suit various needs:

5g, 10g, 20g, 30g, 50g, 100g, 250g, 500g, and 1kg

Custom sizes can also be manufactured based on specific requirements.

## FEATURES

- Cost-effective moisture control solution suitable for a wide range of applications.
- Performs efficiently at temperatures up to 120°C (248°F); exposure beyond this may lead to moisture release and reduced effectiveness.



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- Functions as a passive moisture absorber, eliminating the need for external airflow systems.
- Can operate reliably even in environments with light to moderate airflow (approximately 2–10 CFM in enclosed setups).
- Capable of absorbing 25% to 50% of its own weight in moisture, depending on surrounding conditions.
- Approximately 1 kg of Charmil Desiccant can absorb around 200–250 ml of moisture within 24 hours, ensuring steady humidity control.
- Delivers optimal performance in environments with 30% to 90% relative humidity, with peak efficiency typically observed between 50% and 80% RH.
- Moisture absorption efficiency gradually decreases in very low humidity conditions (below 20% RH).
- Provides long-term protection, maintaining effectiveness for up to 24 months under proper usage conditions.
- Reliable even in challenging environments, including humid and polluted surroundings.
- Does not impact the physical or functional properties of nearby materials such as electrical, optical, or mechanical components.
- Offers versatile protection across multiple applications and storage scenarios.
- Easy to install and handle, requiring no special tools or processes.
- Ensures protection both during operation and storage phases.
- Safe for handling, non-toxic, and environmentally responsible.
- Free from harmful substances such as nitrites, silicones, and phosphates.



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- Requires no additional processes like spraying, wiping, or dipping.
- Designed as a compact, space-efficient solution with low VOC emissions.

## APPLICATIONS

Charmil Desiccant is designed to provide reliable moisture protection across a wide range of industries and storage environments. It is suitable for use in:

- Protection of electrical equipment during operation, packaging, and long-term storage
- Automotive parts and components susceptible to moisture damage
- Marine navigation systems and communication electronics exposed to humid conditions
- Aerospace control systems and sensitive electrical assemblies
- Electric motors and related machinery
- Switchgear systems, fuse units, and power distribution boxes
- Medical devices and equipment requiring controlled environments
- Electrical wiring systems, conduits, and terminal enclosures
- Precision instruments, laboratory tools, and measuring devices
- Telecommunication systems and infrastructure
- Remote electronic units operating in outdoor or variable environments
- Portable and battery-powered devices
- Toolkits, spare parts storage, and enclosed containers with metal components prone to corrosion



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## OTHER INFORMATION

- Charmil Desiccant is designed for quick and hassle-free installation. For best results, it should be placed as early as possible during the packaging or storage process.
- Select an appropriate location inside the enclosure or packaging where moisture protection is required. Ensure the surface is clean, dry, and free from dust or contaminants before placing the pouch. Position the desiccant close to the items that need protection for maximum effectiveness.
- **Important:** Avoid direct contact between the pouch and sensitive components. Once the desiccant absorbs moisture, the outer surface may become slightly damp, which could lead to staining or surface marks.

## USAGE

Place Charmil Desiccant inside the packaging or enclosure, close to the items that require moisture protection. Proper positioning ensures effective humidity control around the components.

It is recommended to use gloves while handling both the desiccant and the products being packed to maintain cleanliness and prevent contamination during the packaging process.



# Charmil Chemicals



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## APPLICATION PICTURES



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MODHERA ROAD,

MEHSANA- 384002 (Guj.) INDIA.

**Website:** www.charmil.in **S.M.E. No.** 24 - 004 -11 - 00731 Dt. 8.12.2008

**G.S.T. No.** 24ANXPS8454NIZS **PAN NO.** ANXPS8454N



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## PACKAGING AND STORAGE

Store Charmil Desiccant in a cool, dry environment to maintain its effectiveness. Ensure the packaging remains tightly sealed when not in use to prevent premature moisture absorption.

## DISPOSAL

Dispose of the product responsibly in accordance with applicable local regulations. Avoid releasing the material into drainage or sewage systems. Non-recyclable packaging should be discarded following the same guidelines as the product itself.

## HEAVY METALS DECLARATION

Charmil Desiccant is manufactured without the use of hazardous heavy metals such as Lead (Pb), Mercury (Hg), Cadmium (Cd), and Hexavalent Chromium (Cr6). It is also free from restricted substances like Polybrominated Biphenyls (PBB) and Polybrominated Diphenyl Ethers (PBDE). The product complies with international environmental and safety standards, including RoHS regulations and REACH requirements for export to the European Union.



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## SAFETY INFORMATION

- Keep out of reach of children.
- Ensure the container remains properly sealed when not in use.
- This product is not intended for ingestion.
- Refer to the Material Safety Data Sheet (MSDS) for detailed safety guidelines.
- Safe to handle under normal usage conditions.
- Classified as a non-hazardous article and does not pose health risks when used as intended, in accordance with global standards such as EU REACH, UN GHS, US OSHA HazCom, and CA WHMIS.
- Suitable for use with sensitive electronic components without causing damage.
- Does not create galvanic reactions, leave residues, or alter the physical properties of metals.
- The protective effect naturally dissipates once the packaging is opened.

## DECLARATION

The information provided in this technical data sheet is believed to be accurate and reliable at the time of publication. However, no guarantees or warranties, either expressed or implied, are made regarding its completeness or absolute accuracy.



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Users are responsible for assessing the suitability of the product for their specific application and ensuring it is used in a safe and appropriate manner. Compliance with all applicable local laws, regulations, and safety standards remains the responsibility of the user.

## LIMITED WARRANTY

All technical details, recommendations, and performance data are based on internal evaluations and testing carried out by Charmil or its associated partners. While the information is considered dependable, it is not guaranteed to be exhaustive or error-free.

Charmil warrants that its products will be free from manufacturing defects at the time of delivery. In the event of a verified defect, the company's responsibility will be limited solely to the replacement of the defective product.

To claim warranty support, customers must notify Charmil or its authorized representatives within three (3) months from the date of shipment. Any applicable transportation or freight charges for replacement will be borne by the customer.

Charmil shall not be held liable for any direct or indirect loss, damage, or injury resulting from the use or inability to use the product.



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Any financial liability, if applicable, will be limited strictly to the value of the supplied product.

Prior to use, customers must determine the product's suitability for their intended purpose and accept all associated risks. No additional claims or assurances shall be valid unless provided in writing and authorized by an official representative of the company.

This warranty replaces all other warranties, whether express, implied, or statutory, including but not limited to warranties of merchantability or fitness for a particular purpose. Under no circumstances shall Charmil be responsible for incidental or consequential damages.

## GLOBAL PRESENCE

Charmil Desiccant products are supported through an extensive global network, catering to clients across multiple regions and industries. Our reach spans key international markets, ensuring reliable availability and service worldwide.

We serve customers in regions including:

### **Africa & Middle East:**

Algeria, Angola, Morocco, Nigeria, South Africa, Tunisia, United Arab Emirates, and the wider MENA region

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## Asia-Pacific:

India, Bangladesh, Bhutan, China, Indonesia, Japan, Kazakhstan, Malaysia, Nepal, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand, Vietnam

## Europe:

Austria, Belarus, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom

## Americas:

Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Ecuador, Mexico, Peru, Uruguay, United States

Charmil continues to expand its global footprint to deliver high-quality moisture control solutions across diverse markets.

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