

## Power Dry

Power Dry is an Activated Clay-type of desiccants made from natural mineral Diatomaceous Earth. Power Dry is a newly developed desiccant that shows greater water vapor adsorption capability as compared to that of conventional desiccants, such as Silica-Gel at CaO. Power Dry is chemically inert calcium aluminosilicate clay (Diatomaceous Earth) which is a naturally occurring mineral as apposed to the chemically synthesized absorbent Power-Dry is totally an acid-free desiccant and consequently, can be widely used in various industries, including very fine electronic and mechanical parts, medicines, etc. Power Dry has a greater water vapour adsorption capabilities compare to other types of desiccants presently available on the market.

<b>Name</b>	Power Dry
<b>Chemical Family</b>	Non-Metallic Mineral
<b>Chemical Name</b>	Calcium Alumino Silicate Clay

## Facts

### Chemical Data

Compound	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	MgO	K <sub>2</sub> O	Na <sub>2</sub> O	Lg.Loss
Contents(%)	81.8	9.35	3.71	0.64	0.71	1.46	0.58	0.96

### Absorbing Ability

Relative Humidity	Absorbing Ability	Packing Materials
20%	8%	One-Way Paper, Non Woven Bag
50%	25%	Cloth bag
90%	41.51%	Bulk. The sizes are from 1 Gram-2,000 Grams

### Physical Data

Appearance	Red Brown Granules
Solubility In Water	Insoluble
Loss on Drying (wt%) at 150 °c	2.0-3.0
PH	6.4-7.5
Specific Resistance (W. cm )	>20,000
Apparent Density (g/ml)	0.85-0.90
Surface Area (m <sup>2</sup> /g)	>1,000
Pore Volume (ml/g)	>0.5
Avg. Pore Diameter. (Å)	<10
Specific Heat (Kcal/kg.)	>0.5
Thermal Conductivity	>0.3

## Features

- ⇒ Much greater water adsorption power than conventional desiccants
- ⇒ Effective over a wide relative humidity range
- ⇒ Environmental friendly
- ⇒ Easy to use and safety to handle
- ⇒ Non-acid property and readily disposable
- ⇒ One-way bag
- ⇒ Permanent shape
- ⇒ Save cost over the long run

## How does Power Dry Work?

Power Dry adsorbs water by mean of capillary condensation in diatomaceous micropores, rather than -OH bond formation as in the case of Silica-Gel. This is the reason why Power-Dry is more powerful since it uses much more adsorption energy.

## Main Character of the product

Outward Appearance	Characteristics	Usage
Granular 1 mm	The better performance is achieving for the higher relative humidity, in the beginning phase and in continuous absorption capacity than conventional desiccants.	Superb for packing of <ul style="list-style-type: none"> <li>⇒ exporting goods</li> <li>⇒ goods in higher relative humidity environment</li> <li>⇒ goods sold in the market and to be stored for a long period</li> </ul>

## Packaging Types

Weight (g)	1-20	50	100	200	500	1 kg	BULK
Volume (ea /box)	1,000-10,000	400	200	100	40	20	25 kg / P.P. Bag

### Adsorption comparison with silica-gel

Relative Humidity	Power-Dry	Silica-Gel	Note
20	15-20	7-13	KSA-2110
50	25-32	25-28	Continuous adsorption for 96 hours
90	50-80	40-50	

### What is one-way bag?

Power-Dry uses a uniquely designed patent one-way bag. Thus, the bag allows moisture to penetrate to the inside, but does not allow water to come back out. This gives greater advantage and more durable over conventional papers or polyethylene bags which always allow moisture to reestablish when ambient temperature rise. Our one-way bag also guarantees dust-free condition.

### How to use and dispose Power-Dry?

Please put the required packet together with your goods before packing or storage. Power-Dry is readily disposable. Its basic chemical property gives additional benefits in term of soil reconditioning, hence, automatically improve soil quality upon discharge.

### Applications of Power Dry

For Industrial use	
<b>Precision Apparatus</b>	Keep precision equipment (such as IV etc.) safe from moisture
<b>AIR, LNG &amp; LPG</b>	Remove water from instrument air LNG or LPG
<b>Exports</b>	Prevents exporting goods from moisture damage during shipment
<b>Warehouse &amp; Freight</b>	Effectively protects all valuable packaging from moisture damage
For Home use:	
<b>Foodstuff</b>	Protects foodstuff from moisture damage, hence help maintain crisp and freshness
<b>Pharmaceutica</b>	Ensure the quality of moisture sensitive pharmaceuticals
<b>Photo Material</b>	Protect film sensitive emulsions from changing color due to moisture
<b>Flower Drying</b>	Dries flower quickly and safety. Beautiful dried flowers last forever.

## Material Safety Data

### Safety Direction

<b>Reaction</b>	Reactivity is stable under normal temperatures and pressures in sealed containers. Hazardous polymerization will not occur.
<b>Spill</b>	Clean up personnel need protection against inhalation of dusts or fumes. Eye protection is required. Vacuuming methods of clean up are preferred.
<b>Inhaled</b>	May cause health hazards when inhaled, ingested or in contact with the eyes and skin. Prolonged inhalation may cause irritation to the upper respiratory track and lung damage. Contact with eye tissue may result irritation
<b>Fire</b>	Nonflammable but negligible fire and explosion hazard when exposed to heat or flame by reaction with incompatible substances. When fire occurs use dry chemical water spray, or foam. For larger fires, use water spray fog or foam.

### First Aid

<b>Disposal methods</b>	Due to power Dry desiccant is derived from natural and does not contain any chemical substance. therefore it can be disposed to the natural in anyway without causing pollution.
<b>inhalation</b>	Remove to fresh air immediately. If breathing has stopped, give artificial respiration. Keep affected person warm and at rest. Get medical attention immediately.
<b>Ingestion</b>	If large amounts have been ingested, give emetics to cause vomiting stomach siphon may be applied as well. Milk and fatty acids should be avoided. Get medical attention immediately.
<b>Eyes</b>	Wash eyes immediately and carefully for 30 minutes with running water, lifting upper and lower eyelids occasionally. Get prompt medical attention.
<b>Skin</b>	To avoid repeated or prolonged contact with this chemical. Use good hygienic practices. Wash with soap and a large amount of water. Get medical attention if irritation or inflammation develops.