



# Zhengzhou SnowMountain Industrial Co., Ltd

郑州雪山实业股份有限公司

## 4A Molecular Sieve

### Introduction

4A molecular sieve is one of the most consumable molecular sieves used in industry, its selective adsorption of water is higher than any other molecule. SNOWPEAK 4A molecular sieve adsorbs water, methanol, ethanol, hydrogen sulfide, sulfur dioxide, carbon dioxide, ethylene, propylene and other molecules with diameters no more than 4 angstroms. Usually used for gas and liquid drying, but also for refining and purification of certain gases or liquids, such as the preparation of argon.

### Technical Specification

Type	4A			
Nominal Pore Diameter	4 angstroms			
Chemical Formula	$\text{Na}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 2\text{SiO}_2 \cdot 4.5 \text{H}_2\text{O}$ ( $\text{SiO}_2 : \text{Al}_2\text{O}_3 \approx 2$ )			
Shape	Bead		Pellet	
Diameter(mm)	1.6-2.5	3.6-4.8	1/16"	1/8"
Bulk Density(g/ml)	$\geq 0.67$	$\geq 0.66$	$\geq 0.64$	$\geq 0.64$
Crush Strength(N)	$\geq 35$	$\geq 85$	$\geq 27$	$\geq 62$
Wear Ratio(%)	$\leq 0.2$	$\leq 0.2$	$\leq 0.2$	$\leq 0.25$
Water Content(%)	$\leq 1.5$	$\leq 1.5$	$\leq 1.5$	$\leq 1.5$
Static H <sub>2</sub> O Adsorption(%)	$\geq 21$	$\geq 21$	$\geq 21$	$\geq 21$



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### Application

Detergent auxiliary, soap molding agent, toothpaste abrasive;  
Sewage treatment, heavy metal recovery;  
Water softener, soil conditioner;  
Separating agent in metallurgical industry;  
Catalyst, desiccant, adsorbent in petrochemical industry;  
Silver zeolite antibacterial agent in pharmaceutical industry

### Packing

Iron drum, net weight 125/135/140kg; or according to customer requirements

### Storage

Room temperature; indoor humidity no more than 90%; avoid water, acid, alkali; isolate air; sealed preservation

### Regeneration

SNOWPEAK 4A molecular sieve can be purged and regenerated by increasing the temperature, regeneration (dehydration) degree depends on the humidity and temperature of the purging gas.

Water removal: Heat dry gas such as nitrogen, air, hydrogen, saturated hydrogen carbide to 150-320°C, then pass it into the molecular sieve bed under the pressure of 0.3-0.5kg/m<sup>2</sup> for 3-4 hours, and then pass the dry cold gas into the adsorber for 2-3 hours, isolate the air and cool it to room temperature.

Organic removal: Replace the adsorbent from the molecular sieve by water vapor, and then heat. Or pass into hot vapor or inert gas at the in 200-350°C, not use gases that produce explosive mixtures by contact with the adsorbent.

Gas removal: reduce the pressure