

MS 544 C Molecular Sieves

Technical Data Sheet



Product Description

SYLOBEAD® MS C 544 Adsorbent is a highly porous, crystalline aluminosilicate in beaded form. The pore openings in the crystals have a diameter of approximately 10 Å.

Typical Properties and Recommended Applications

The following typical properties data are given for informational purposes only, and are not to be interpreted as product or in-process specifications. To receive further product and handling information please contact our local sales office.

SYLOBEAD® MS C 544 adsorbs molecules with effective diameters smaller than approximately 10 Å. Due to its high capacity for water and CO₂ this molecular sieve is widely used for air purification in cryogenic air separation plants. It is also applied in the removal of H₂S/mercaptans and other sulphur compounds from natural gas and LPG.

TYPICAL PROPERTIES		
Bulk Density	675	g/l
Total Volatile (950°C)	2.0	%
Residual Water Content (LOI, 575°C)	1.5	%
H ₂ O-Adsorption Capacity 10% RH., 25°C	23.0	%
H ₂ O-Adsorption Capacity 80% RH., 25°C	29.0	%
CO ₂ -Adsorption Capacity 2 torr, 25°C	5.0	%
CO ₂ -Adsorption Capacity 250 torr, 25°C	19.0	%
H ₂ S-Adsorption Capacity 5 torr, 25°C	11.0	%
Crush strength	40	N
Bead size	1.6 – 2.5	mm

SHIPPING INFORMATION	
Packaging	130 kg / 216.5 l drum
	800 kg big bag on pallet

Handling & Storage Recommendations

SYLOBEAD® MS C 544 Adsorbent should be handled so as to avoid generation of dusty conditions at the workplace. When pouring into a container in the presence of flammable liquids, gases or dust, earth both containers electrically to prevent a static electric spark and the risk of explosion. Additional information can be found in our Safety Data Sheet. Storage in a dry warehouse is recommended. Open packages should be resealed to prevent contamination and adsorption of water or other gases and vapors. The material in drums should be used within 4 years and in big bags within 6 months from the date of production.

Health & Safety Information

SYLOBEAD® MS C 544 Adsorbent is a synthetic aluminosilicate bound with a mineral clay. In active conditions it will release heat when adsorbing water or other substances. If a large quantity of sieve quickly adsorbs water, the molecular sieve can become hot enough to cause thermal burns of the skin; contact has to be avoided under these conditions. Information to date indicates that the synthetic aluminosilicate is not toxic and does not cause fibrosis. The product contains, however, a small amount (ca. 1 %) of quartz carried over from the mineral binders. At present, EU Regulations do not require safety labeling of products containing quartz. However, quartz has been recently classified by IARC (International Agency for Research on Cancer) as carcinogenic to humans by inhalation (Group 1). Furthermore, quartz can cause silicosis or other lung diseases on prolonged exposure. When handling Molecular Sieve Beads the concentration of respirable quartz in the working environment is expected to be well below the limits allowed by the worker protection regulations. Nevertheless, the user is responsible for controlling the working environment according to local regulations, e.g. in the UK: COSHH Regulations; in Germany: Gefahrstoffverordnung and TRGS 900. The Occupational Exposure Limit for synthetic aluminosilicate in Germany is 6 mg/m³ for respirable dust (MAK). The Occupational Exposure Limit for quartz in Germany is 0.15 mg/m³ for fine dust (MAK). Additional information can be found in our Safety Data Sheet. Please refer also to national laws and regulations.

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We can adapt all of our filtration products to your needs, and we offer visits from our consultants in order to find the right solution for you.

