BASF
The Chemical Company

Product Datasheet

BASF 13X Molecular Sieve

BASF 13X Molecular Sieve is a synthetic crystalline aluminosilicate with a regular micropore structure.

Zeolite Structure	Faujasite type (FAU)
Pore Size	10 Å (1.0 nm)
Chemical Formula	$Na_2O \cdot Al_2O_3 \cdot m\ SiO_2 \cdot n\ H_2O$ ($m \leq 2.35$)

Product Applications

BASF 13X Molecular Sieve is a highly selective adsorbent designed for the elimination of trace contaminants from air and other gases. It can also be used for the desulphurization (sweetening) of natural gas and other fluids, especially for the removal of mercaptanes, and for drying of gases and liquids.

Another field of application for BASF 13X is the non-cryogenic oxygen enrichment from air using pressure (vacuum) swing adsorption (PSA/VPSA) technique. It can be used as regenerative thermo-chemical energy storage for the generation of cold or heat, possibly using environmentally sound primary energy sources (sun energy, exhaust heat etc.).

Regeneration

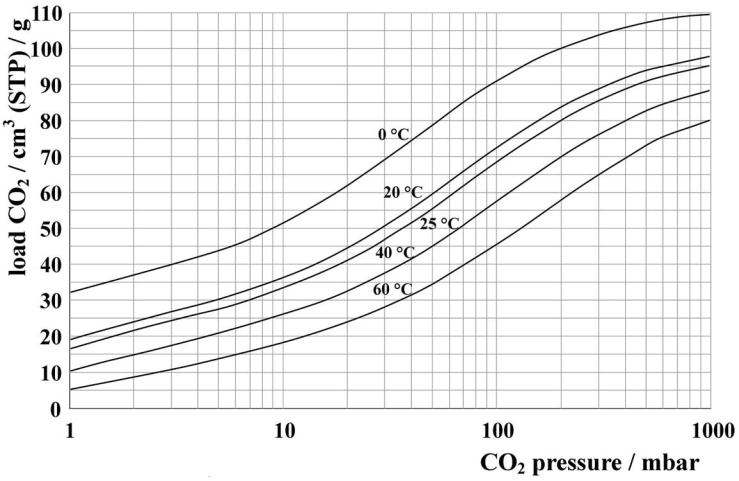
Regeneration of BASF 13X Molecular Sieve may be carried out by increasing the temperature and/or reducing the pressure or using a suitable purge gas. The purge gas temperature must be sufficiently high to warm up the molecular sieve to a level of 200 °C to 300 °C, but not exceeding 450 °C. The appearance of so-called hydrothermal conditions during the regeneration should be avoided as far as possible. BASF 13X Molecular Sieve is non-toxic.

Packaging

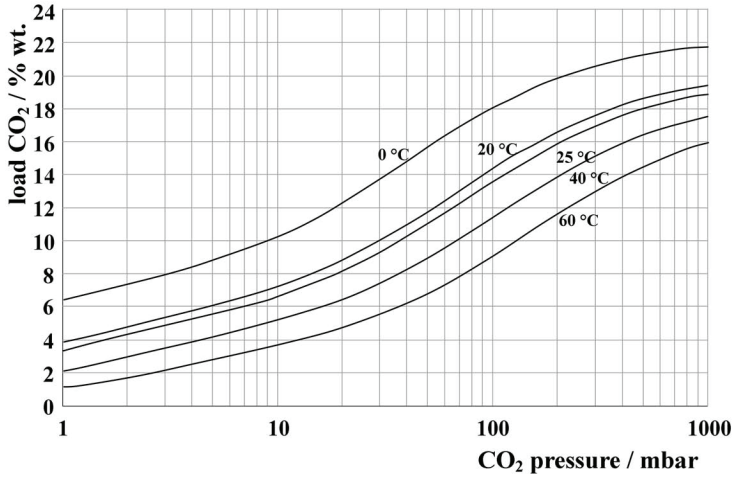
- 216 L (135 kg) air tight steel drums
- Polypropylene inliner equipped big bags of different sizes (650 or 800 kg net)

Typical Properties				
Beads size range, nominal, mm	1.2 – 2.0	1.6 – 2.5	2.5 – 3.5	2.5 – 5.0
Mesh Range, approx	10 x 16	8 x 12	6 x 8	4 x 8
Bulk Density, compacted, g/L	680 - 725	680 – 725	680 – 725	680 – 725
Attrition, % wt.	Max 0.2	Max 0.2	Max 0.2	Max 0.2
Crush Strength, N/bead	Min 10	Min 25	Min 40	Min 50
Moisture Content (as delivered, % wt)	Max 1.0	Max 1.0	Max 1.0	Max 1.0
Water Adsorption Capacity*, 55% relative humidity, 20 °C, % wt	Min 26.5	Min 26.5	Min 26.5	Min 26.5

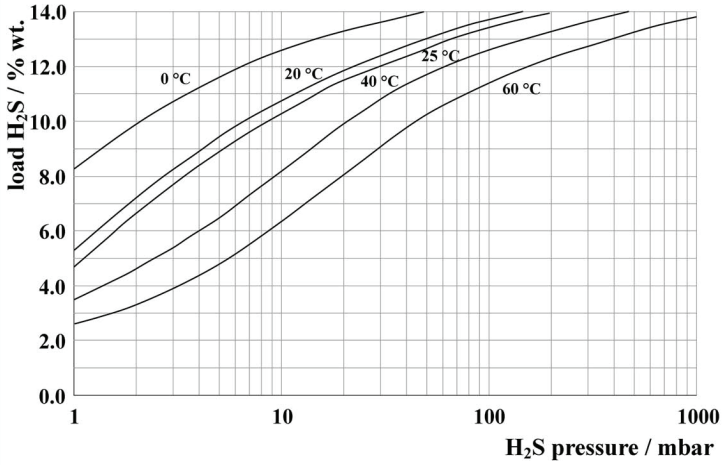
*Sample activated. Other beads and sizes available on request.



CO_2 adsorption isosteres



CO_2 adsorption isotherms



H_2S adsorption isotherms

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