



Adsorbents and Catalyst

ACTIVATED  
ALUMINAS

Selexsorb® CD

PRODUCT  
DATA

## Adsorbent for polar organic compounds

### Product Information

Almatis Selexsorb® CD is a smooth, spherical adsorbent, custom formulated to provide optimum adsorption of a number of polar organic compounds including: oxygenated hydrocarbons (alcohols, aldehydes, ketones, ethers, peroxides, glycols); mercaptans; and nitrogen based molecules (ammonia, amines, nitriles). Selexsorb CD is available as 7x14 Tyler mesh, 1/8" and 3/16" spheres, packaged in vapor barrier drums, and sling bins.

### Product Applications

1. Hydrocarbon feed streams to petroleum refining catalytic processes often contain oxygenated organic compounds and other trace contaminants which can cause catalyst deactivation and other process unit performance problems.

Selexsorb CD is an excellent adsorbent for the removal of alcohols, aldehydes, ketones, ethers, and various other carboxylic acids from the liquid hydrocarbon feed streams to isomerization and alkylation processes. Selexsorb CD is also appropriate for the removal of water and mercaptans from these feed streams.

2. The C<sub>4</sub> raffinate stream from MTBE (methyl tertiary butyl ether) manufacturing processes contain oxygenates which often require removal to assure a contaminant-free feed stream to petroleum refining and petrochemical processes. Removal of oxygenates such as methanol, dimethyl ether, tertiary butyl alcohol, and MTBE from this C<sub>4</sub> raffinate stream can be accomplished by use of Selexsorb CD.

An additional application for Selexsorb CD in the MTBE process is removal of nitrogen based contaminants, such as acetonitrile and ammonia, from the C<sub>4</sub> feed stream.

3. Selexsorb CD has been found to be outstanding in its ability to remove water and trace contaminants from carbon dioxide. The resultant high purity CO<sub>2</sub> is far superior to the product produced with conventional adsorbents.

4. Selexsorb CD is custom formulated to remove oxygenated organic compounds (alcohols, ethers, aldehydes, carbonyls, ketones, peroxides, etc.) from feed monomer, feed comonomer, and recycle solvent streams in a number of polymer production processes, including polyethylene and polypropylene. Polymerization catalyst deactivation is minimized through removal of these contaminants with Almatis' selective adsorbents.

For additional information on specific applications for Selexsorb CD selective adsorbent, refer to the applications section on our website.

## Typical Physical Properties of Selexsorb® CD

### Physical

	7x14 Tyler Mesh (2.0mm)	1/8 inch (3.2mm)	3/16 inch (4.8mm)
Surface area (m <sup>2</sup> /gram)	410	400	390
Alumina XRD phase	Amorphous chi, & gamma	Amorphous chi, & gamma	Amorphous chi, & gamma
Crush Strength lbs (kgs)	10 (5)	28 (13)	58 (26)
Packed Bulk Density lbs/ft <sup>3</sup> (kgs/m <sup>3</sup> )	43 (689)	43.5 (697)	43.5 (697)

### Chemical

Al <sub>2</sub> O <sub>3</sub> + Proprietary Modifier	95.1
SiO <sub>2</sub> (wt%)	0.02
Fe <sub>2</sub> O <sub>3</sub> (wt%)	0.02
Na <sub>2</sub> O (wt%)	0.30
LOI (250 - 1200°C) (wt%)	4.5

Information presented herein is believed to be accurate and reliable but is not intended to meet any specification and does not imply any guarantee or warranty by Almatris.

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