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Product Data Sheet

Selexsorb AS

Alumina-based spherical adsorbent for the removal of arsine and phosphine

BASF Selexsorb[®] AS is a smooth, alumina-based spherical adsorbent impregnated with a promoter to provide optimum adsorption capacity for arsine, phosphine and stibine.

BASF Selexsorb AS also has an affinity for sulfides such as carbonyl sulfide and hydrogen sulfide. Selexsorb AS is available as 1/16" and 1/8" spheres.

Product Applications

1. The propylene feed stream to polypropylene production processes often contains trace levels of arsine, phosphine, carbonyl sulfide and hydrogen sulfide, especially if it is a fluid catalytic cracking unit. The high activity polymerization catalysts (Ziegler-Natta and metallocene) employed in polypropylene production processes can be severely deactivated by these arsenic, phosphorous and sulfur-based contaminants. BASF Selexsorb AS effectively removes these contaminants to effluent levels of <5 ppbw in liquid phase propylene. Selexsorb AS can be installed in a stand alone mode (AsH₃, PH₃, COS, and H₂S removal) or in conjunction with an upstream vessel containing Selexsorb COS selective adsorbent (for COS and H₂S removal in regenerative or non-regenerative mode).

2. Acetylene and methylacetylene-propadiene (MAPD) converter catalysts in olefin and polyolefin plants are poisoned by arsine and phosphine.

BASF Selexsorb AS is appropriate for removal of these contaminants from vapor phase ethylene streams. Test work has verified that BASF Selexsorb AS does not form acetylides in the presence of acetylenes.

Robust Benefits

BASF Selexsorb AS has been proven to have superior adsorption capacity for arsine in side-by-side tests with competitive metal oxide based adsorbents.

Applications

To optimize BASF Selexsorb AS selective adsorbent's capacity for arsine (i.e., reaction to form copper arsenate), it is recommended that the adsorbent be preconditioned by heating the packed bed with dry N₂ at 200° C (392° F) to desorb H₂O.

Packaging

- 2000 lb super sacks
- 375 lb steel drums

Chemical Composition (%)	
Al ₂ O ₃ plus proprietary modifier	96.1
Trace Impurities	0.4
LOI (250-1100° C)	3.0

Typical Physical Properties	
	1/8" (3.2mm)
Surface Area, m ² /g	190
Crush Strength, lbs (kg)	20 (9.0)
Abrasion Loss, wt %	0.2
Packed Bulk Density, lbs/ft ³ (kg/m ³)	50 (800)

About Us

BASF's Catalysts division is the world's leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF Catalysts develop unique, proprietary catalyst and adsorbent solutions that drive customer success.

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