

BASF Catalysts

Technical Bulletin

R 3-12

Arsine Treater Catalyst

Catalyst Data Sheet

BASF Catalyst R 3-12 is designed for high efficiency removal of arsine, phosphine, H₂S and COS in the treatment of process and product streams. R 3-12 is widely used in the purification of polymer grade propylene, and in guard beds to protect noble metal catalysts (e.g. MAPD hydrogenation catalysts) from arsenic and sulfur.

Arsenic and sulfur react with the Cu and Zn constituents in the catalyst to form stable metal complexes which do not migrate or desorb off of the catalyst. Thus R3-12 is not regenerable; however, it has a high capacity, and generally outlasts other materials.

R 3-12's excellent performance is due to the high surface area and the ultra-fine copper crystallite size developed in the production of the catalyst powder. The powder is then formed into tablets in a way that achieves both the high porosity needed for optimum performance and the robust mechanical strength needed for long lifetimes.

Composition:	nominally 40 wt.% CuO, 40 wt.% ZnO, and 20 wt.% Al ₂ O ₃
Form:	5 x 3 mm tablets
Bulk Density:	1250 kg/m ³ (78 lb/ft ³), ± 5% depending on loading technique
Crush Strength:	side wall, 7.0 kg (15 lb)
Operating Temp.:	15 to 250 °C (60 to 482 °F)
Thermal Stability:	up to 350 °C (660 °F)
Lifetime/capacity:	Capacity and lifetime vary, depending on levels of arsine & sulfur, on the space velocity, and other factors. Contact BASF for assistance on bed sizing or performance rating in your service.

12/13/99

Important: While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. Further, you expressly understand and agree that the descriptions, designs, data, and information furnished by BASF hereunder are provided gratis and BASF assumes no obligation or liability for the description, designs, data and information given or results obtained, all such being given and accepted at your risk.

BASF Corporation
Catalyst Marketing Group
15710 JFK Blvd, Suite 550
Houston, Texas 77032
Phone: (281) 985-2400
Fax: (281) 985-2401

Chemicals

BASF