

# MS Series

## UOP Molecular Sieves\*

UOP Molecular Sieves\* are synthetically produced, crystalline metal aluminosilicates that have been activated for adsorption by removing their water of hydration. Unlike other adsorbents, Molecular Sieves have a precise uniform size and molecular dimension. According to the size of these pores, molecules may be readily adsorbed, slowly adsorbed or completely excluded. This sieve-like selectivity, based on molecular size, plus a selectable preference for polar or polarizable molecules, gives Molecular Sieves an extremely high level of adsorption efficiency, and permits close tailoring of the adsorbent to the specific use. Pore sizes vary by the "type" of Molecular Sieve; for example, Type 4A has a uniform pore size of 4 angstroms while Type 13X has a uniform pore size of 10 angstroms.

### Applications

- Preferred adsorbent in closed gas and liquid systems
- Desiccant and solvent-vapor adsorbent in dual-pane insulating window units – added to prevent fogging of interior glass surfaces.
- Dehydration when very low humidity conditions are required – added to protect products such as pharmaceuticals, batteries, fuel propellants, machine parts, film and electronic components.
- Dehydration of moisture in polymeric formulations – added to paints, adhesives and plastics systems to control curing process and eliminate unwanted water reactions.
- Dehydration in refrigeration and air conditioning systems – added to prevent freeze up and corrosion.
- Commercial dehydration of unsaturated hydrocarbon streams such as cracked gas, propylene, butadiene and acetylene.



Molecular Sieves are available in a variety of containers from 1/2 lb. to 325 lb. net package sizes.

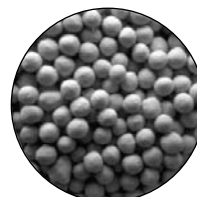
### Forms

- Powders are white finely divided free flowing particles with an average diameter of 4–5 microns.
- Pellets are cylindrically formed products whose diameters are controlled (1/16" or 1/8" as specified).
- Mesh are granular shaped products.\*\*
- Beads are spherically shaped products.\*\*

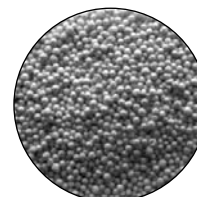
\* Advanced Specialty Gas Equipment repackages and markets Molecular Sieves manufactured by UOP.

\*\* The sizes of both Mesh and Beads are specified jointly by the screen sizes that the material will pass through and retained by. For example, a 14 x 30 mesh product will pass through a 14 mesh screen, and be retained by a 30 mesh screen. Listed below are the screen openings for some common screen sizes

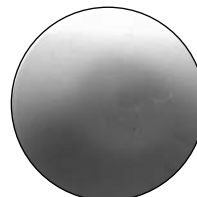
| Screen Size | Opening (mm) |
|-------------|--------------|
| 4           | 4.760        |
| 8           | 2.380        |
| 12          | 1.680        |
| 14          | 1.410        |
| 30          | 0.595        |



Beads



Mesh



Powder



Pellets