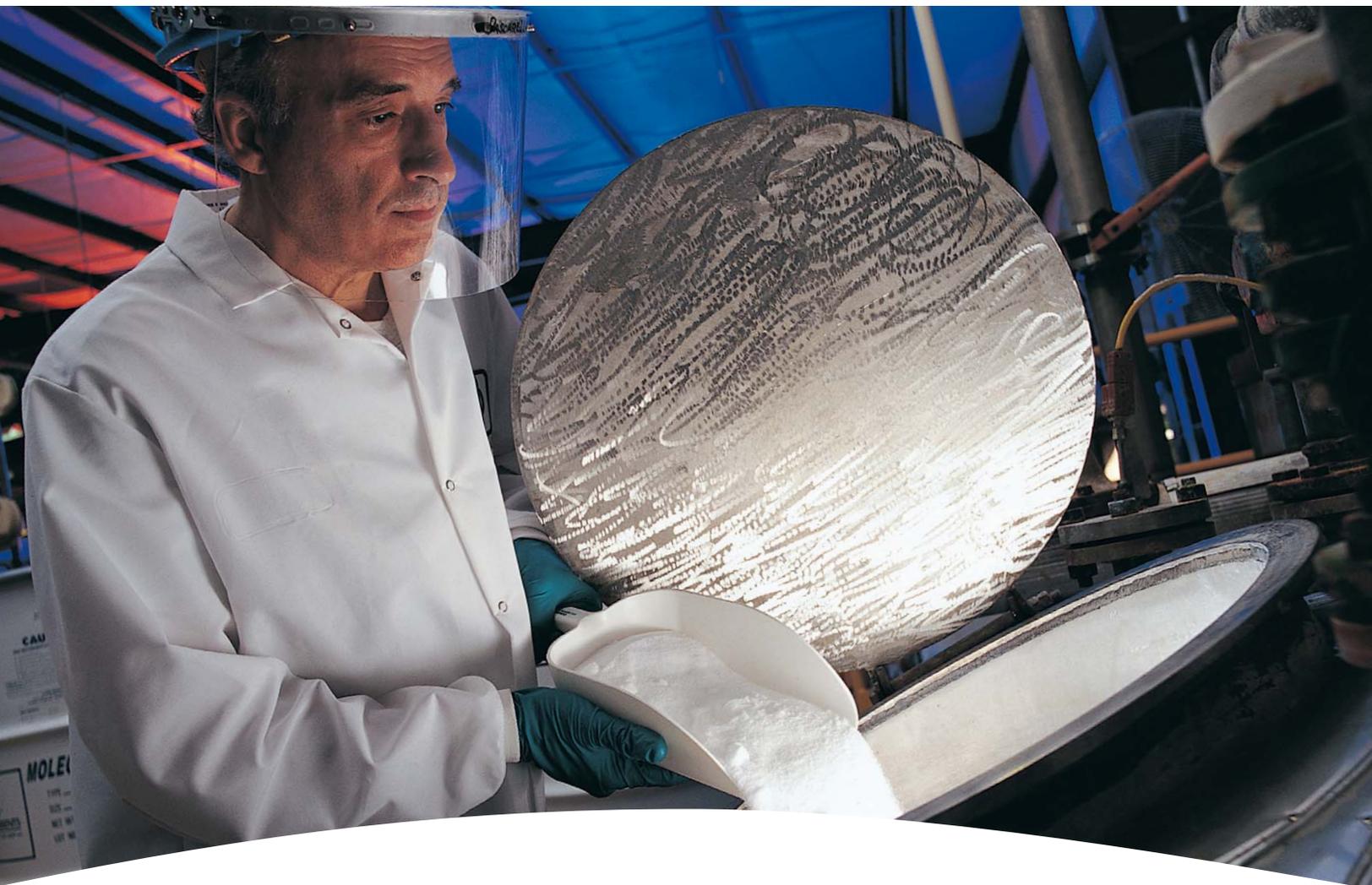


# UOP Adsorbents



SUPER DRYING DESICCANT

**Formulating with UOP MOLSIV™  
molecular sieve adsorbent powders**

# The “super drying” desiccant



Our MOLSIV adsorbents have been called the “super drying” desiccant for good reasons

- They are extremely effective; even at low water concentrations
- They dry at high or low temperatures
- They dry without altering formulations
- They can remove other contaminants as well as water

That's why molecular sieves are used to prevent gassing, gelation, erratic viscosity and other problems in coatings, adhesives, sealants, and elastomer systems.

They are also used as “super drying” desiccants in household refrigeration systems, in packaging drugs and electronic products, and in the aerospace industry. Wherever moisture can cause a problem, UOP MOLSIV molecular sieves are used.

Wherever moisture  
can cause a problem,  
UOP MOLSIV  
products are used



### Determining How Much You Need

In polyurethane and polysulfide systems and in zinc-rich paints, 10 parts of MOLSIV powder are usually required for each part of water removed. This amounts to about one to two parts per hundred formulation in polyurethane and zinc-rich paints.

Sealants may need more because of their higher pigmentation levels.

Usually the more pigment, filler and solvent present in a formulation, the higher the moisture content, and thus, the more desiccant will be needed in the formulation. If small proportions of pigment, filler and solvent are present, less than one to two parts MOLSIV powder may be required.

In aluminum coating formulations, three to four parts powder should be added for every part water removed. Generally, one half to one part MOLSIV powder per 100 parts formulation is sufficient to remove all water normally present.

For other applications, start by adding two to three parts MOLSIV powder per 100 parts formulation. Make adjustments after each trial to compensate for the actual amount of water present.

### Formulating Procedures

Since moisture is usually introduced into the system through the pigment, filler or solvent, you will get better results by mixing the molecular sieve and the pigment or filler thoroughly prior to adding them to the prepolymer or vehicle. In two-component urethanes, you only need to add the molecular sieve to the polyol portion of the formulation. In general, you should add the powder to the formulation before you add the reactive component.

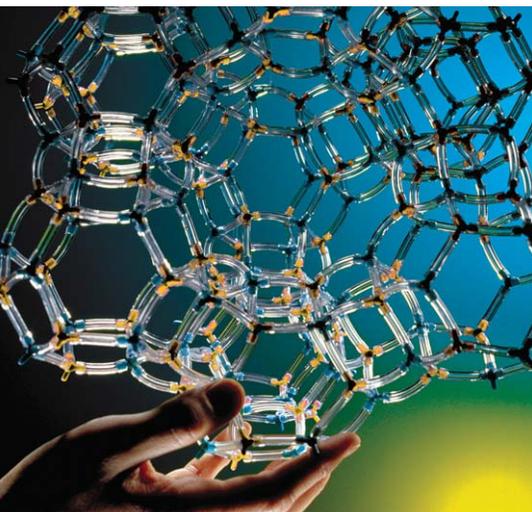
You will find that UOP MOLSIV powder is easily added to any formulation. It requires no wetting agent or special mixing equipment. Any medium shear mixer is sufficient to insure proper dispersion of the powder.

### Proper Handling and Storage

As any desiccant, molecular sieve powder will remove water vapor when exposed to ambient air. Therefore, keep the container closed until you are ready to add the molecular sieve. Then remove the amount needed and reseal the container. Once you have exposed your MOLSIV powder outside the container, do not replace the unused portion back in the container.

By following these simple precautions, you will maximize the useful water capacity of the MOLSIV powder when dehydrating your formulations.





## Unparalleled Experience

UOP's expertise and innovation extends from research and development to manufacturing and from application product selection to technical services. To best meet customer needs, UOP offers the broadest portfolio of molecular sieve and activated alumina product in the world. With sales, technical support staff, and manufacturing facilities located around the globe, UOP continue to lead the industry through our commitment to our customers. Whether you are looking to dry, purify or separate, you'll find the adsorbent solution with UOP.

## Additional Information

Call or e-mail your local UOP Adsorbent Sales office to request samples or for additional information regarding formulating with UOP MOLSIV 3A, 4A, 5A powders, and UOP L and T powders and pastes. Please visit [www.uop.com](http://www.uop.com) for a full listing of our sales offices locations.

## Find out more

If you are interested in learning more about our UOP adsorbents please contact your UOP representative or visit us online at [www.uop.com](http://www.uop.com)



**RESPONSIBLE CARE**<sup>®</sup>  
OUR COMMITMENT TO SUSTAINABILITY

UOP5318  
September 2011  
Printed in U.S.A.  
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