



# FLO-GARD™ FF-D

## Flow Conditioning Silica

FOOD

FLO-GARD™ FF-D anti-caking agent is an amorphous silicon dioxide specifically designed for fine particle-sized food ingredients. *Flo-Gard* FF-D silica absorbs high level of oils and fats, and produces an excellent free-flowing product.

### Properties and Characteristics

*Flo-Gard* FF-D silica is an anti-caking agent specifically designed for finer particle-sized food ingredients. *Flo-Gard* FF-D silica provides a combination of small particle and high absorbency. The typical median particle size of *Flo-Gard* FF-D silica, 18 microns by Laser Diffraction, permits better coverage of fine particle-sized food ingredients. The high absorbency of *Flo-Gard* FF-D silica helps keep ingredients with high levels of fat or oil, free-flowing. *Flo-Gard* FF-D is hydrated silica, with a neutral pH, and is odorless and tasteless, making it compatible with a variety of ingredients.



### Applications

- Fine salt products
- Spices and seasonings
- Powdered sugar products
- Chocolate powders
- Dairy and non-dairy creamers
- Powdered drink mixes
- Tableting applications



### *Flo-Gard* FF-D – Typical Properties

|  |             |
|--|-------------|
| Particle Size, $\mu\text{m}$                       | 20          |
| DOA Oil Absorption Number, mL/100g                 | 240         |
| pH   | 7.0         |
| Moisture (as packaged), Wt.%                       | 5.0         |
| Residual salt (as $\text{Na}_2\text{SO}_4$ ), Wt.% | 2.0 maximum |

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## Anti-caking, Partitioning, Low Dust

*Flo-Gard* FF-D silica is highly porous, so it quickly absorbs liquids and oils in the food ingredients preventing caking. *Flo-Gard* FF-D silica is designed to provide more particles per unit weight of flow agent providing excellent partitioning. This is important for improving flowability, especially with fine particle-sized food ingredient. *Flo-Gard* FF-D silica generates low dust during handling, because the small particle form loose agglomerates that settle quickly when scooped or dumped for the bag into the mixer. *Flo-Gard* FF-D silica disperses very easily when mixed into food ingredients.

## Samples

Samples are available upon request from Customer Service.

## Storage

To ensure product integrity, PPG recommends that our silica products be stored under dry, clean conditions and protected against exposure to other substances. Since silica may pick up moisture, we also recommend that products that are stored for more than one year from the date of manufacture be re-tested for moisture content. There is no shelf life limit when stretch-wrapped palletized units or bags are kept under the above stated conditions. Pallets should not be double-stacked.

## Safety and Health Effects

PPG Industries recommends that, before use, anyone using or handling this product thoroughly read and understand the information and precautions on the label, as well as in other product safety publications such as the Safety Data Sheet. Any health hazard and safety information contained herein should be passed on to your customers or employees, as the case may be. The products mentioned herein can be hazardous if not used properly. Like all potentially hazardous materials, this product must be kept out of the reach of children.

## Preferential Moisture Absorption

The surface of *Flo-Gard* FF-D silica is very hydrophilic, absorbing moisture quickly. In most cases, *Flo-Gard* FF-D silica will absorb moisture from the atmosphere more readily than a food ingredient preventing caking of the food product.

## Product Safety and Regulatory Information

For the latest safety and regulatory information, please reference the product Safety Data Sheet and Global Product Safety and Regulatory Information Sheet available at [www.ppgsilica.com/SDS](http://www.ppgsilica.com/SDS).

## Packaging

Standard packaging as follows:

|                  |   |
|------------------|---|
| Multi-wall paper | 20 lb (9 kg) and 44 lb (20 kg) net weight |
| FIBC             | 600 lb (272 kg) net weight                |

Bags are unitized for shipping on pallets which are stretch wrapped with clear plastic film. Please consult with customer service or your sales representative regarding additional packaging options, including custom package sizes and bulk shipments.

Visit [www.ppgsilica.com](http://www.ppgsilica.com) for more information.



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