Flo-Gard™ 213

Carrier for Animal-feed Supplements

Flo-Gard™ 213 is a synthetic, precipitated, amorphous silicon dioxide pellet, designed as a high absorbency, high bio-potency carrier product for converting liquid nutrients to concentrated dry animal-feed supplements. Flo-Gard™ 213 has a high bulk density and low dust content which gives it excellent free-flowing characteristics.

Typical Properties of Flo-Gard™ 213

Moisture, as packaged, Wt%	5.0
pH	7.0
Residual salt (as NaCl), Wt%	2.5 maximum
SiO_2 Hydrate, %	87.0 Minimum

Registration Numbers

CAS No. 112926-00-8	Synthetic Precipitated Amorphous Silica
CAS No. 7631-86-9	TSCA Chemical Substance Inventory (SiO_2)
231-545-4	European EINECS

High Absorbency

Flo-Gard™ 213 has a nitrogen specific surface area, BET-5 point of 135 m2/g, a high bulk density, 260 g/l, and a carrying capacity of up to 65% depending on the liquid product. This combination makes Flo-Gard™ 213 one of the highest per-volume absorbency carrier in the marketplace. Greater absorbency per unit volume means the mixing cycles can be shorter and production equipment can be used more efficiently. Packaging and shipping costs are also reduced.

Absorbency Retention and Ease of Mixing

Flo-Gard™ 213 retains its high absorbency after mixing. Flo-Gard™ 213 resists degradation from over-mixing, permitting longer mixing cycles on full-scale production equipment, without carrier collapse and loss of absorbency. The product mixes easily in ribbon blenders without the need for intense mixing or the use of "choppers." The volume of the blend will not fluff during mixing resulting in larger, more uniform batches.

High Bio-potency and Product Purity

Flo-Gard™ 213 releases the absorbed nutrient readily. Tests and experience have shown that its bio-potency closely parallels that of the liquid substance itself. This chemical stability can help to extend the storage life of many formulations even if they are exposed to humid conditions. The residual NaCl salt present in the product is compatible with animal metabolism. It is pure white in color when dry, but is almost invisible when dispersed in many liquids.

Particle Size, Excellent Flowability

The typical particle size Flo-Gard™ 213 is about 30 mesh (600 microns), by sieve analysis. The minus 200-mesh (75 microns) content of Flo-Gard™ 213 is extremely low, making the product very free-flowing.

Typical Applications

Flo-Gard™ 213 can be used in the animal-feed supplements such as chlortetracycline, lecithin, molasses, organic oils, propionic acid, and vitamin E (acetate).

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Packaging for Flo-Gard™ 213

Net weight	Bag Construction
44 pounds (20 Kg)	multi-walled kraft paper bags
800 pounds (363 Kg)	Flexible Intermediate Bulk Container (FIBC)

Bags are unitized for shipping on pallets which are stretch wrapped with clear plastic film. FIBC's are double stacked on wood pallets. Shipments can be made in truckloads or carloads as well as in bulk rail hopper cars, and bulk trucks from the PPG Silicas Plant in Lake Charles, LA.

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 silicas may pick up moisture we also recommend that products that are stored more than one year, from 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.

Safety and Health Effects

Responsible Care® Good Chemistry at Work

PPG Industries Inc. is committed to safe handling of chemicals at every step of the process, from manufacturing and distribution through education of the end user. Our participation in the American Chemistry Council's *Responsible Care*® Program is evidence of our commitment to the health, safety and welfare of our employees and the industry. PPG Industries Inc. recommends thoroughly reading and understanding the product labels, Material Safety Data Sheets, and other safety information about the product prior to use or handling. Product health and safety information should be made available to your employees and customers.

Service and Samples

PPG's Technical Service Specialists are available for consulting on the use, handling and storage of Flo-Gard™ 213 .
Gallon containers and bag-size samples are available upon request from Technical Service.

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CERTIFIED QUALITY MANAGEMENT SYSTEM ISO 9001:2008 ANAB DNV

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