



glassven

**PRECIPITATED SILICAS
AND SODIUM ALUMINUM SILICATES
FOR FOOD APPLICATIONS**

PIRROSIL

THE BEST IN QUALITY AND SERVICE!!!

INTRODUCTION

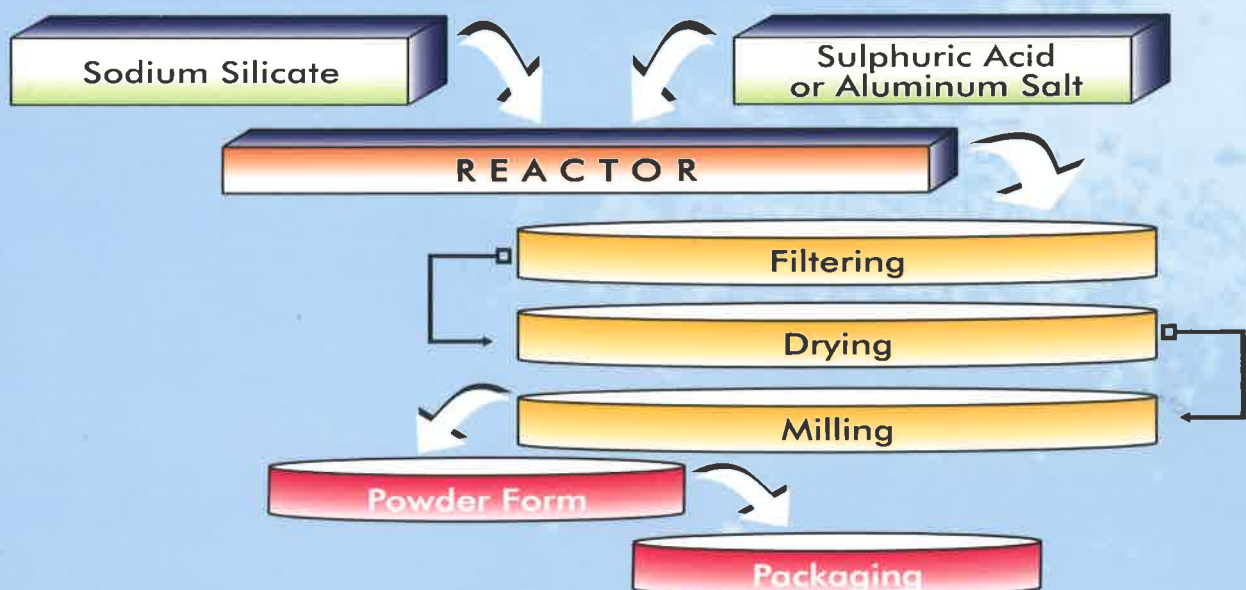
The resistance to the caking and flow of numerous powdered material and food are adversely influenced by environmental conditions such as: temperature, moisture, etc. The inter-particle and electrostatic forces, chemical reaction, oil or fat content and particle fines, can convert a powder into a hard compact mass. The incorporation of a small quantity of Glassven silicas or sodium aluminum silicates to the powder can delay or avoid the above effects by covering the host material and modifying the contact among particles.



Synthetic precipitated silica due to its porous structure can absorb large quantities of liquids and still remains as a free flowing powder (carrying capacity); this important property can be used in industries where raw material or additives are difficult to handle in their original form. The addition of a fine silica can convert such products into powders, which can be handled or processed more easily.

GLASSVEN C.A produces a range of free flowing, anti-caking and carrier agents, which are used to eliminate these unwanted effects improving the processing, flow behavior, incorporation and storage stability of powders. PIROSIL grades from Glassven C.A are synthetic precipitated silicas and sodium aluminum silicates, widely used in food, feed and many others powdered products.

MANUFACTURING PROCESS

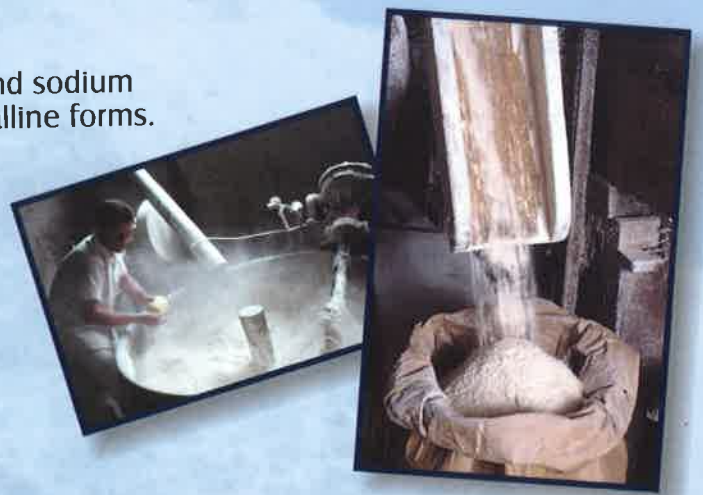


PIROSIL

ADVANTAGES:

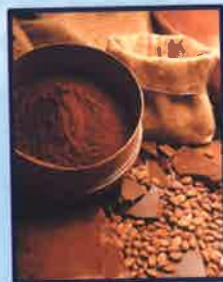
- Controlled particle size and surface characteristics.
- Excellent optical whiteness.
- High chemical purity enabling them to be used in products for human consumption.
- Controlled absorption capacity.
- Absorbs up to three times its own weight and keep its original form.
- Amorphous structure rendering synthetic silicas and sodium Aluminum silicates safer to use than natural crystalline forms.
- More Cost Effective.

Pirosil grades are available in powder form with different particle sizes providing excellent results on the substrates.



APPLICATIONS GUIDE

| Product Function | Pirosil PS-120 | Pirosil PS-200 | Pirosil PS-300 | Pirosil PS-2000 | Pirosil AS-70 |
|---------------------|-------------------|-------------------|-------------------|--------------------|------------------|
| Carrier | | | • | • | |
| Free Flowing | • | • | • | • | • |
| Process Aid | • | • | • | • | • |



TECHNICAL DATA

Physical - Chemical Data

| Properties | Unit | Method | PS-120 | PS-200 | PS-300 | PS-2000 | AS-70 |
|--------------------------------|------------------------------|---------------|--------|--------|--------|---------|-------|
| SiO ₂ (Anhydrous) | % | ISO 3262/17 | 98 | 98 | 98 | 98 | 82 |
| BET Surface Area. | m ² /g | ISO 5794-1 | 120 | 185 | 185 | 185 | 80 |
| Tapped Density | g/l | ISO 787-11 | 160 | 160 | 160 | 200 | 175 |
| pH (5% water suspension) | | ISO 787-9 | 6.9 | 6.5 | 6.5 | 6.5 | 10.5 |
| Moisture Loss at 105°C | % | ISO 787-2 | 4.5 | 4.5 | 4.5 | 4.5 | 5.5 |
| Sieve Residue > 45 μm | % | ISO 787-7 | 2 | 3 | 0.1 | 50 | 2 |
| DBP Absorption | ml/100 g SiO ₂ | ASTM-2414-64T | 250 | 290 | 300 | 290 | 195 |
| Al ₂ O ₃ | % | ASTM-C146-80 | - | - | - | - | 9.5 |

The values in this chart are not specifications. The data shows typical values based on the analysis of spot samples.

APPEARANCE

PIROSIL (precipitated silicas and sodium aluminum silicates) are pure and white synthetic powders, amorphous, tasteless, inert and colorless.

PACKAGING, HANDLING AND STORAGE

PIROSIL (precipitated silicas and synthetic sodium aluminum silicates), are packed in 10 Kg, 15 Kg and 20 Kg multipaper bags, palletized and shrink wrapped. The bags can be handled in the same way as those of any other inert product. PIROSIL, must be stored in confined, dry, odorless places and the maximum length of storage time is up to one year.

NUTRITIONAL ANALYSIS

Glassven precipitated silicas and synthetic sodium aluminum silicates are mainly used as conditioning agents for powders or carriers for liquids in the food and feed industries. There is no nutritional value associated with them.

PHYSIOLOGICAL EFFECTS AND PRODUCT SAFETY

Precipitated Silicas and synthetic sodium aluminum silicates are considered inert, non toxic powder for the human being and the Environment; the radiographic analysis shows the typical spectrum of radiographically amorphous substance which does not contain crystalline elements.

LEGAL EVALUATION

PIROSIL meets Food Chemical Codex (FCC) requirements, the Food and Drugs Administration (FDA), regulates application percentages. Certified by Kosher and Halal, which are renewed annually. PIROSIL, silicon dioxide and sodium aluminum silicate, are registered on the following inventories: Australia AICS Canada CEPA OSL, China NEPA, EU EINECS Number, Japan ENCS, Korea ECL, Philippines PICCS, USA TSCA Inventory.

FOOD APPLICATIONS



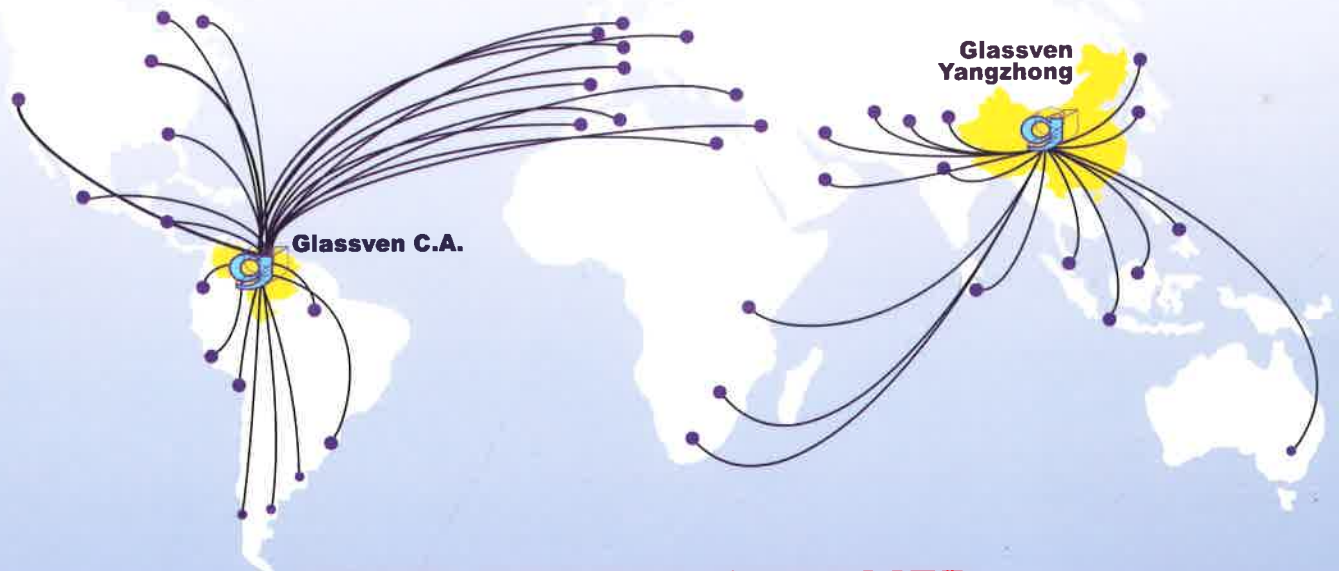
Free Flowing and Anticaking Agent

These recommendations are based on evaluations tested in Glassven's conditioning Lab. Actual results may depend on specific product characteristics.

| Application | PS-120 | PS-200 | PS-300 | PS-2000 | AS-70A |
|--------------------------------------|--------|--------|--------|---------|--------|
| Grated Cheeses | X | X | X | | |
| Dried Eggs | X | XX | X | | X |
| Dried Egg Yolks | X | XX | X | | |
| Salt | X | XX | X | | XX |
| Granulated and Powdered Sugar | | XX | X | XX | |
| Paprika | X | XX | | X | |
| Onion and Garlic salt | X | XX | | X | |
| Cocoa | X | XX | X | | |
| Chocolate Drink mix | | X | X | X | |
| Non Dairy Creamer | X | XX | X | | XX |
| Instant Ice Tea mix | X | X | XX | | |
| Ground Herb and Spices | X | XX | | X | X |
| Flour | | X | | | X |
| Cornbread mix | X | X | | | X |
| Buttermilk Biscuit mix | | | | | X |
| Dry Malt extract | X | XX | X | | |
| Pizza mix | | | | | X |
| Instant coffee and dry liquids | X | XX | | | |
| Coffee Creamer and Cream substitutes | | X | | | XX |
| Powdered Sauces | X | X | X | X | |
| Cinnamon | | XX | | X | |
| Drink mix | X | XX | | X | |
| Biscuit mix | | | | | X |
| Pound Cake mix | | | | | X |
| Cream Soup mix | X | XX | X | | |

X= Good Performance XX= Excellent Performance

GLASSVEN'S WORLDWIDE MARKET



YOUR GLOBAL SUPPLIER...

**FOR FURTHER INFORMATION PLEASE CONTACT
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