Special Silicas for the Oral Care Industry

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We are providing Precipitated Silicas with a wide range of structure and morphology ideally suited to meet the most challenging needs.

The products line satisfy the Oral Care Industry needs, which have an excellent fluoride compatibility, independently of the fluoride source, such as: Sodium Fluoride (NaF) or Sodium Monofluorophosphate (MFP).

Precipitated Silica is a very useful material in toothpaste formulations to help mechanical elimination of dental plaque and impart rheological properties.

Abrasive and Thickening Power

Abrasive Agents

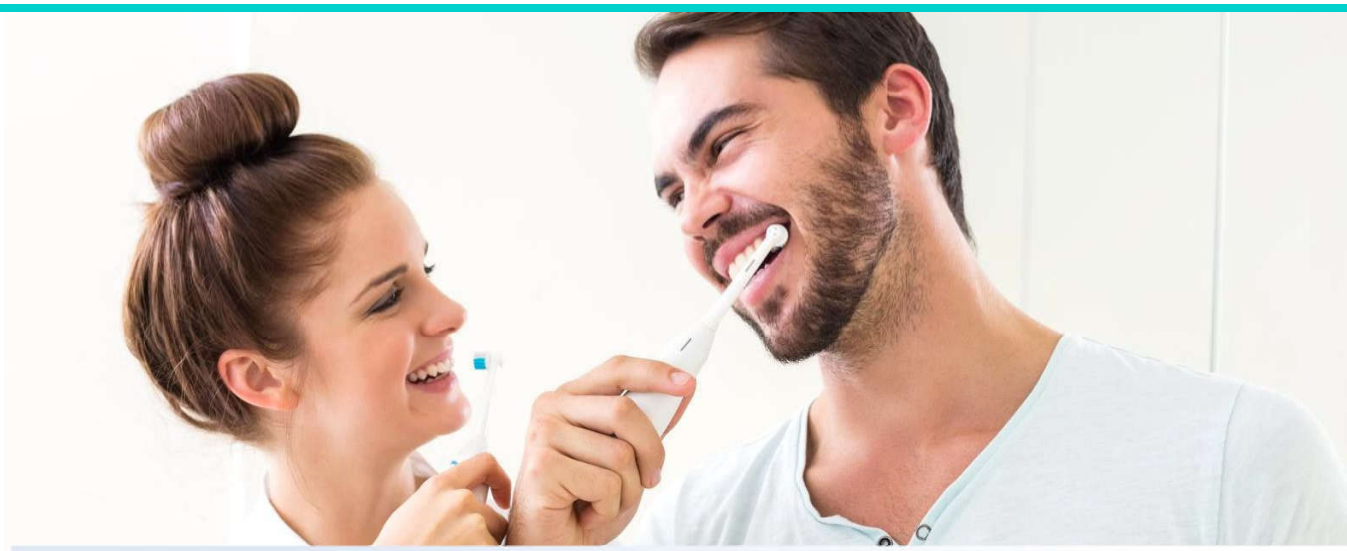
- SILICA-60
- SILICA -100
- SILICA -160

Thickening Agent

- SILICA -230

Product	Abrasivity	Thickening
SILICA -60	Medium	Low
SILICA -100	Good	Low
SILICA -160	Very Good	Very Low

Product	Transparency	Thickening
SILICA -230	Very High	Good



Abrasive Agents

Unlike calcium-based polishing agents, Silicas are compatible with all active ingredients and therapeutic agents such as sodium fluoride. Furthermore, they can be used in transparent and colored gels.

SILICA-60

It is an unique Precipitated Silica used as Mild Abrasive Agent, which combines good abrasion level and very high cleaning power due to its standard RDA and high PCR value.

It provides excellent transparency in high clarity toothpastes. It is highly recommended in formulations for children and therapeutic toothpastes (for sensitive teeth and gums).

SILICA-100

It is a Precipitated Silica with high abrasive power and high cleaning properties. Its RDA and high PCR values make it suitable for those toothpaste formulations that demand a higher polishing level.

It is recommended in opaque and striped formulas.

SILICA-160

It is a Precipitated Silica that has been especially designed to provide higher abrasion and cleaning properties due to its superior RDA and PCR values. It is ideal for whitening, anti-plaque and smokers pastes.

Thickening Agent

Thickening agents are used in toothpaste formulations to avoid viscosity variations, which are mainly caused when detergents and aromatic oils are added into the formula.

Precipitated Silicas have been specially developed to offer viscosity control and thixotropic effect in different kinds of formulas, assuring an uniform distribution of toothpaste in dental cavity.

SILICA-230

It is a synthetic Precipitated Silica, which combines good thickening properties and outstanding transparency due its fine particle size and high structure.

It offers viscosity control, stability during storage and an excellent compatibility with active ingredients.

Advantages

- Improves viscosity control.
- Offers storage stability.
- Avoids liquid separation.
- Provides clarity and transparency in clear gel formulations.
- Excellent compatibility with fluoride and actives ingredients.
- Supplements the action of organic thickeners, allowing the required texture and mouth-feel.

Physical — Chemical Data

Characteristic	Unit	method	SILICA-60	SILICA-100	SILICA-160	SILICA-230
Sio_2 Content	%	ISO 3262/19	98	98	98	98
Loss on Drying (2h at 105 °C)	%	ISO 787/2	6.0	6.0	6.0	6.0
Soluble SaltsContent	%	ISO 787/13	<2.0	<2.0	<2.0	<2.0
DBP Oil Absorption	ml/100g	ASTM D281-95	130	115	80	230
Sieve Residue > 45 µm	%	ISO 787/7	<1.0	<1.0	<1.0	<1.0
pH (5% Water suspension)	-	ISO 787/9	7.0	7.0	7.0	7.0
Average Particie Size	µm	ISO 13320-1	10	10	10	12
RDA Value	-	ISO 11609	60	100	160	15

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

Product Quality

The products meet all criteria described in the United States Pharmacopoeia/National Formulary (USP/NF) and the European Pharmacopoeia (Ph. Eur.) for Dental-Type Silica. In addition, they comply with the China National Standard of Silicon Dioxide for Toothpaste.

SILICA grades are aimed to Oral and Personal Care applications. They count on Kosher and Halal certifications, which are renewed annually. They also have the food safety certifications QS and CIQ.

The production site and Quality Management System (QMS) have been accredited with ISO 9001:2015 certification, while our Food Management System (FMS) counts on ISO 22000:2005, FSSC 22000, HACCP and GMP certifications.

Precipitated Silicas are produced under strict quality and microbiological controls based on advanced technologies, being tested and certified by our in-site micro laboratory.

Packaging, Handling and Storage

Products are packed in 12.5 Kg. and 25 kg. white paper bags, palletized and shrink wrapped. They are also available in super sacks. These bags can be handled in the same way as those of any other inert product.

SILICAS must be stored in confined, dry and odorless places. The maximum length of storage time is up to two years.

Physiological Effects and Product Safety

Precipitated Silicas are amorphous, inert, non-toxic powder for the human being and the environment. The radiographic analysis shows the typical spectrum of an amorphous substance that does not contain crystalline elements.