

SYNTHETIC
PRECIPITATED SILICAS
& SODIUM
ALUMINOSILICATES
FOR PAINT & COATING
APPLICATIONS



Madhu Silica Pvt. Ltd.

Bhavnagar, Gujarat

Manufacturers of Precipitated Silicas & Silicates

ABOUT US

Madhu Silica Pvt. Ltd. (MSPL) is the largest manufacturer of Precipitated Silica in India.

MSPL manufactures more than 50 different grades of Silica's catering to a wide array of Industries for different applications.

The Company have 5 established plants capable of manufacturing 2,00,000 MT / annum.

The company today has a marketing office in Delhi, a large Business Associate net work in India and across the Globe.

We are ISO certified organization, registered to several other standards and country specific requirements.

Our Markets & Silica Grades

- Paints & Coating Applications
- Oral Healthcare / Cosmetics / Pharma Applications
- Tyre / Rubber / Footwear / Misc. Rubber Applications (Highly Dispersible & Conventional Silica grades)
- Food / Feed applications
- Specialty applications
- Polymer / Plastics applications (Gel route Silica's)

Facilities

- World class manufacturing facilities to give customer satisfaction through Consistency in Quality
- In-house Rubber, Dental, paint Application Labs
- World class Research & Development Centre, established in 1996, recognized by DSIR, New Delhi.

Madhu Silica Pvt. Ltd. (MSPL) is the largest manufacturer of Precipitated Silica in India and the 4th largest in the world.



MISSION

Mission to serve the Industry by offering consistent quality products, product accessibility with differentiating services.

VISION

With a vision to create a Brand Image bringing in sustainability with growth.

VALUES

Keeping intact the values for core competence in Governance with Integrity, Accountability, Passion and Diversity.

ISO 9001

ISO 14001

OSHAS 18001

Our manufacturing setups are capable to produce defined quality with consistency

In place are

- Quality Management Systems
- Accreditations from ISO systems
- Sustainability, Transparency with Accountable work practices

Our R & D Centre was established in 1996 which gave strength to our operations and fueled our growth.

With Innovative capabilities, in place are:

- Testing and Application Laboratories for Toothpaste and Rubber
- Pilot Plant Set up

SYNTHETIC AMORPHOUS SODIUM ALUMINOSILICATES FOR PAINT AND COATING APPLICATIONS

PRODUCT CHARACTERISTICS

- Amorphous sodium aluminosilicate in powder form for use in paints and coatings as titanium dioxide (TiO₂) extender.
- High excellent whiteness and brightness properties for giving desired opacity, whiteness and brightness to water based / emulsion paints for internal and external applications.
- Lower particle size and narrow particle size distribution to act as extender to titanium dioxide giving excellent opacity.

BENEFITS

- Enhanced improvement in opacity and hiding properties.
- Effective light scattering material suitable for paint formulations to increase opacity or to compensate for reduced titanium dioxide content.
- Better sheen control, improved film whiteness & stain resistance.
- Spaces Titanium dioxide thereby improving its optical efficiency.
- Improved film forming properties, enhancement in scratch and stain resistance.
- Flattening and scrub resistance for interior architectural formulations.
- Partial replacement of TiO₂ upto 25%, lowering formulation cost without loss of covering power.
- Better opacity, dispersion and anti-settling properties due to better fineness.

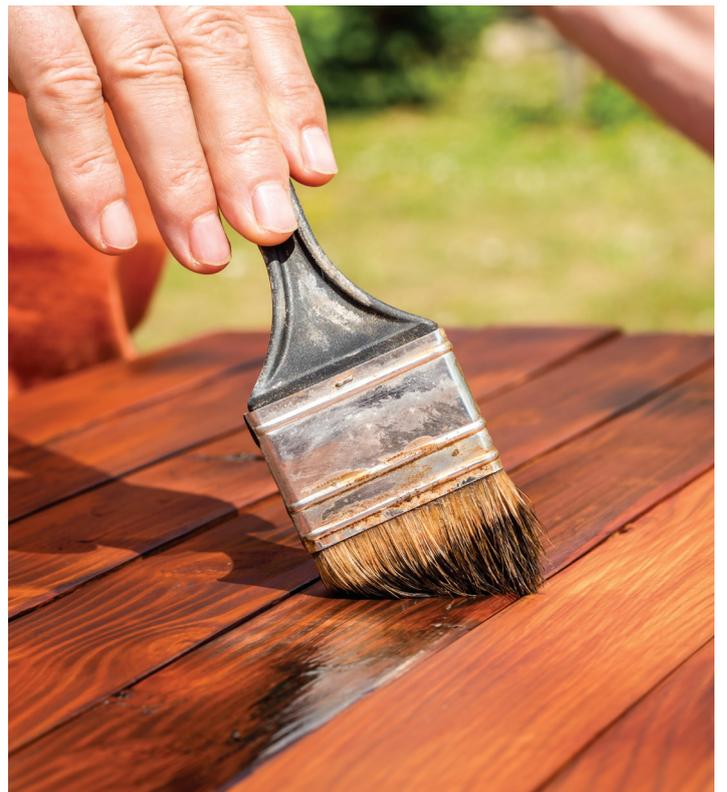
SYNTHETIC SODIUM ALUMINOSILICATE GRADES

- MASIL (Alkaline pH, 8.0 microns)
- MASIL-7 (Neutral pH, 8.0 microns)
- MASIL (Alkaline pH, 8.0 microns)
- MASIL- 7 (Neutral pH, 8.0 microns)
- MASIL-723 (Neutral pH, with low absorption capacity / viscosity build)



TYPICAL PRODUCT PROPERTIES

GRADE	% MOISTURE	pH (5% SLURRY)	OIL ABSORPTION cc /100gm	BULK DENSITY (g/l)	AVERAGE PARTICLE SIZE, MICRONS	% WHITENESS	APPLICATION BENEFIT
MASIL	5.0	10.0	120	270	5.0	99.0	TiO2 extender, Alkaline pH, average particle size ~5.0 microns.
MASIL - 7	5.0	7.0	120	270	5.3	99.0	TiO2 extender, Neutral pH, average particle size ~5.0 microns.
MASIL (8.0 Microns)	5.0	10.0	120	310	8.0	99.0	TiO2 extender, Alkaline pH, average particle size ~8.0 microns.
MASIL - 7 (8.0 Microns)	5.0	7.0	120	310	8.0	99.0	TiO2 extender, Neutral pH, average particle size ~8.0 microns.
MASIL - 723	5.0	7.0	90	300	5.3	99.0	TiO2 extender, Neutral pH, average particle size ~8.0 microns, with Low absorption capacity.



SYNTHETIC AMORPHOUS UNTREATED & TREATED PRECIPITATED SILICA GRADES FOR SURFACE COATING APPLICATIONS

PRODUCT CHARACTERISTICS

- Synthetic high brightness silica available in untreated & organic treated form.
- Used as matting agents for aqueous and solvent based systems.
- Organic treatment of the inert siloxane (Si-O-Si) & active silanol groups (Si-OH).
- Special manufacturing set-up in place for treated Silica.

BENEFITS

- Organically treated product provides improved smoothness and scratch resistance.
- The surface treatment coupled with lower particle size, promotes ease in incorporation & dispersibility.
- High matting efficiency & gloss reduction.
- Viscosity control & better dispersion.
- Anti-settling & anti-corrosion.
- Film flexibility and chemical resistant.
- Cost effective thickening & Thixotropic agent.
- Free flow / anti-caking agent for powder coatings.
- Products used in varying coating formulation like lacquers, polyurethane varnishes, coil coatings, wood coatings, gel coats, artificial leather coatings, foils & plastic sheet coatings etc.

UNTREATED SILICA GRADES

MFIL-HV(3.0 microns):

- Untreated Synthetic Precipitated Silica, used for Viscosity enhancement.
- High Absorption capacity, offering high Viscosity build & thixotropic properties in coatings.
- Low average particle size & narrow particle size distribution provides smooth surface finish.
- Recommended for automotive coatings, putty, primers etc.

PolySIL-MC44:

- Synthetic amorphous Silica used as matting agent in aqueous formulations, printing inks etc.
- Lower average particle size & narrow particle size distribution provides smooth surface finish.

TYPICAL PRODUCT PROPERTIES

GRADE	% MOISTURE	pH (5% SLURRY)	OIL ABSORPTION cc /100gm	BULK DENSITY (g/l)	AVERAGE PARTICLE SIZE, MICRONS	% SiO ₂ , (ANHYDROUS BASIS)	APPLICATION BENEFIT
PolySIL - MC44	1.8	6.8	200	120	3.0	99.2	Matting agent, for aqueous coatings/ Ink formulations.
MFIL - HV (3.0 Microns)	3.5	6.5	310	55	3.0	98.8	Offers high Viscosity build/ Thixotropic properties & smooth surface in coatings

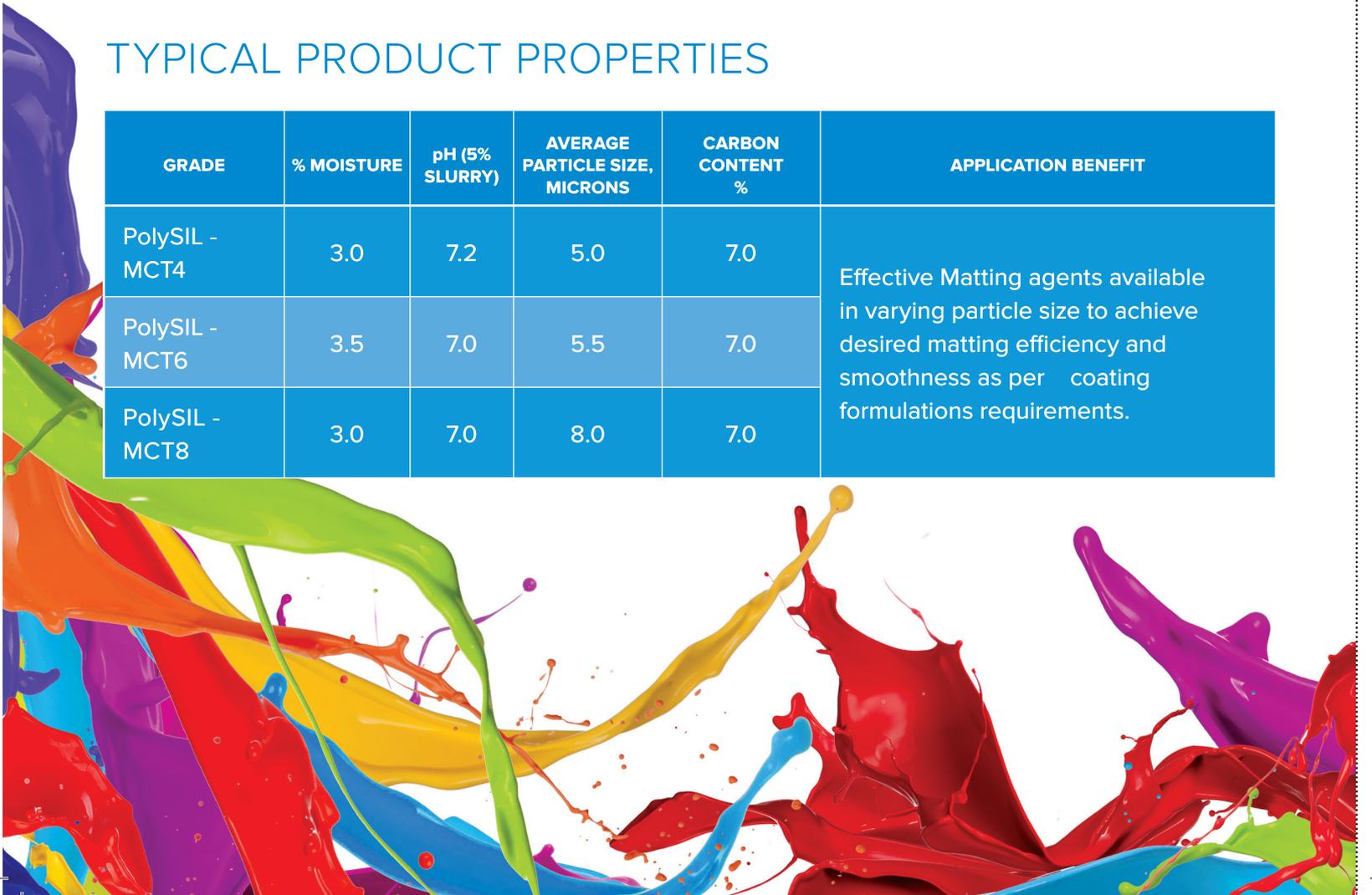
ORGANIC TREATED SILICA GRADES

- PolySIL-MCT4
- PolySIL-MCT6
- PolySIL-MCT8

Silica features viz. Porosity, Particle size and Surface treatment critically controlled to provide desired matting efficiency and smoothness as per formulation requirements. Available in different average particle sizes.

TYPICAL PRODUCT PROPERTIES

GRADE	% MOISTURE	pH (5% SLURRY)	AVERAGE PARTICLE SIZE, MICRONS	CARBON CONTENT %	APPLICATION BENEFIT
PolySIL - MCT4	3.0	7.2	5.0	7.0	Effective Matting agents available in varying particle size to achieve desired matting efficiency and smoothness as per coating formulations requirements.
PolySIL - MCT6	3.5	7.0	5.5	7.0	
PolySIL - MCT8	3.0	7.0	8.0	7.0	



SYNTHETIC AMORPHOUS PRECIPITATED HYDROPHOBIC SILICA

PRODUCT CHARACTERISTICS

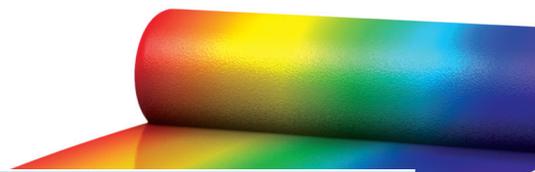
- Used as matting/flatting agent in paints, coatings, defoamers, inks, powder coatings, toners, adhesives.
- The surface of the hydrophilic silica consisting of siloxane (Si-O-Si) and active silanol groups (Si-OH) are treated with silane and siloxane hydrophobizing agents
- As matting / flatting agent it introduces micro-roughness to the surface causing the light to be reflected in a diffused manner, thereby reducing the apparent gloss.
- As defoaming agent, it suppresses foaming in formulations.

BENEFITS

- High matting / flattening efficiency.
- Improved film forming properties.
- Improves shelf-life of Silicone sealants, water resistant with good rheology control.
- Effective anti-settling agent for coatings & pigment stability.
- Improved hydrophobic and rheological properties.
- The surface treatment coupled with lower particle size, promotes ease in incorporation & dispersibility.
- Free flow / anti-caking agent for powder coatings.

TYPICAL PRODUCT PROPERTIES

GRADE	% MOISTURE	pH (5% SLURRY)	AVERAGE PARTICLE SIZE, MICRONS	% SiO ₂ , (ANHYDROUS BASIS)	BULK DENSITY, (g/l)	CARBON CONTENT %	APPLICATION BENEFIT
MFIL - TST	0.90	4.0	4.0	99.0	95	1.0	Hydrophobized Silica with low particle size for Inks/ Toners/ adhesives.
MFIL - TS1	0.90	6.8	4.5	99.2	90	1.5	Effective Matting agents available in varying particle size to achieve desired matting efficiency and smoothness as per coating formulations requirements.
MFIL - TS100	3.5	9.8	4.0	99.0	100	3.0	
MFIL - TS117	1.5	8.5	8.5	98.5	185	2.0	



We cater to industries worldwide for below applications



Please contact us for your requirements



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