ASTRRA Chemicals

Technical Write-Up and Specifications of Fumed Silica (Silicon Dioxide) (Grade: Erosil – NV/200)

Fumed Silica (Silicon Dioxide) (Grade: Erosil – NV/200)

Fumed Silica, also known as Silicon Dioxide (Grade: Erosil – NV/200), is a versatile material with various applications in the nutraceutical, herbal extracts, marine extracts, and spice extracts industries.

Its uses across sectors are mentioned below:

Nutraceuticals:

- Anti-caking Agent: Fumed Silica can be used as an anti-caking agent in powdered supplements and vitamins to prevent clumping and ensure uniform distribution of active ingredients.
- Flow Agent: It improves the flow properties of powders, making them easier to handle and process during manufacturing.
- Thickener: Fumed Silica can be utilized as a thickening agent in liquid supplements and suspensions, enhancing their viscosity and stability.
- Carrier: It can serve as a carrier for encapsulated nutrients, ensuring controlled release and improved bioavailability.

Herbal Extracts:

- Carrier for Extracts: Fumed Silica can act as a carrier for herbal extracts, improving their dispersibility and stability in various formulations.
- Viscosity Modifier: Fumed Silica can be used to adjust the viscosity of herbal extract formulations, making them easier to handle and administer.
- Enhanced Solubility: Fumed Silica can enhance the solubility of poorly soluble herbal compounds, improving their bioavailability.
- Anti-settling Agent: It helps prevent sedimentation and settling of particulates in liquid herbal extract formulations.

Marine Extracts:

- Emulsifier: Fumed Silica can be used as an emulsifying agent in marine extract formulations to stabilize oil-in-water or water-in-oil emulsions.
- Texture Modifier: It can modify the texture and consistency of marine extract products, providing a smoother mouthfeel and enhancing sensory attributes.
- Suspension Agent: Fumed Silica aids in suspending particulates and insoluble materials in marine extract formulations, preventing sedimentation and improving product stability.

Spice Extracts:

- Anti-caking Agent: Fumed Silica prevents the clumping and caking of spice extract powders, ensuring consistent flavour and aroma.
- Flow Enhancer: It improves the flow properties of spice extract powders, facilitating uniform mixing and dispersion in food products.
- Carrier for Encapsulation: Fumed Silica can be used as a carrier for encapsulated spice extracts, enhancing their stability and shelf life.

In all these applications, Fumed Silica (Silicon Dioxide) (Grade – NV/200) serves as a multifunctional ingredient, providing benefits such as improved texture, stability, dispersibility, and bioavailability to nutraceuticals, herbal extracts, marine extracts, and spice extracts.

CERTIFICATE OF ANALYSIS

Fumed Silica (Silicon Dioxide) (Grade: Erosil – NV/200)

Properties	Results
Appearance	Free Flowing White Powder
Loss on Drying (at 105°C)	4.6%
Ignition Loss on Anhydrous Basis (at 1000°C for 2 hours	3.96%
Bulk Density (While Material Packed)	98.0 gm/lit
pH (5% Suspension)	6.51
Water Absorption	260
Soluble Salts	0.82%
SiO_2	98.61%
Soluble Salt as Sulphate	1710 ppm
Surface Area – BET (Single Point Method)	226
Moisture (at 105°C)	4.98%
Fe	Less than 1%
Particle Size	100% Passing (-) 200 BSS

Annexure

Nutraceuticals:



Herbal Extracts:



Marine Extracts:



Spice Extracts:

