

## LUDOX® HS-40-FS

Colloidal Silica

### Product Description

LUDOX® HS-40-FS Colloidal Silica contains synthetic amorphous silica of nominal 12 nanometer particle size. The alkaline aqueous colloidal dispersion contains 39% silica. This grade is also freeze stabilized with ethylene glycol.

### Product Characteristics

The following specification parameters will be stated in our Certificate of Analysis.

Property	UOM	Value	Test Method
Specific Gravity (15.6°C/60°F)		1.284 – 1.309	L6550.310.02.EC
Silicon Dioxide (SiO <sub>2</sub> )	% m/m	37.0 – 39.5	L6550.083.01.EC
pH (25°C)		9.2 – 9.9	L6550.280.01.EC
% Transmission	%	54 min.	L6550.523.01.EC
Viscosity (25°C / 77°F)	cPs	45 max.	L6550.545.01.EC
Specific Surface Area	m <sup>2</sup> /g	198 – 258	L6550.005.02.EC
Sulfates as Na <sub>2</sub> SO <sub>4</sub>	% m/m	0.08 max.	L6550.277.01.EC
Ethylene Glycol	% m/m	4.0 – 6.0	L6550.005.03.EC

### Typical Properties and Recommended Applications

The following typical properties data are given for informational purposes only and are not to be interpreted as product or in-process specifications.

Property	UOM	Value
Density	g/cm <sup>3</sup> , lb/gal	1.3, 10.8
Boiling Point (760 mm Hg)	°C/°F	100/212
Melting Point	°C/°F	0/32
Vapor Pressure (25°C)	mm Hg	24
Vapor Pressure (38°C)	mm Hg	48
Stabilizing Counter Ion		Sodium
Particle Charge		Negative

LUDOX® HS-40-FS Colloidal Silica is broadly used in the formulation of coatings, catalysts, antislips and antisoil treatments as well as a high temperature binder for refractory fibers, investment castings, etc.. Key features are:

- High binding strength and stability in most applications
- Highest silica content
- Ethylene glycol inhibits gelation of product when accidentally frozen such that, once thawed, the material can be remixed without change in properties.

# LUDOX® HS-40-FS Colloidal Silica

## Packaging Information

The standard packaging for LUDOX® HS-40-FS Colloidal Silica is:

- 55 gallon drums (Net 590 lb/267.57 kg)
- 275 gallon bulk drums (Net 2866 lb/1299.8 kg)
- tank truck

## Handling & Storage Recommendations

- Store at temperatures above 2°C/35°F and below 43°C/110°F to avoid irreversible gel formation or silica precipitation. Bulk storage tanks or drum storage areas should be located in temperature-controlled buildings. Outdoor storage can be used if suitably insulated, heated and protected from the weather. Outside storage should be in a shaded location or a sunscreen should be erected over the tanks or drums.
- Keep the container tightly closed after use. All equipment should be cleaned and sanitized regularly to avoid bacterial contamination.
- Product should be used within 24 months of manufacture.
- Additional information can be found in the Safety Data Sheet (SDS).

## Health & Safety Information

LUDOX® HS-40-FS Colloidal Silica is a synthetic amorphous silica dispersed in a stable form in water. This material contains a biocide in the amount that guarantees the performance of the product for the duration of its shelf life. For more information, see the Safety Data Sheet or contact your Grace representative. Please refer also to national laws and regulations.

## ISO Certification

ISO 9001 Registered

## Other Information

The information contained herein is based on our testing and experience and is offered for the user's consideration, investigation and verification. Since operating and use conditions vary and since we do not control such conditions, we must **DISCLAIM ANY WARRANTY, EXPRESSED OR IMPLIED**, with regard to results to be obtained from the use of this product. Test methods are available on request.

## Contact

For detailed Information, please refer to the Grace website: [www.grace.com](http://www.grace.com).

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