

Product Information

LUDOX® HS-40

Colloidal Silica

Product Description

LUDOX® HS-40 Colloidal Silica contains synthetic amorphous silica of nominal 12 nanometer particle size. The alkaline aqueous colloidal dispersion contains 40% silica.

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)		1.292 – 1.312	L6550.310.02.EC
Silicon Dioxide (SiO ₂)	% m/m	39.0 – 41.0	L6550.083.01.EC
Ratio SiO ₂ /Na ₂ O		89 – 101	L6550.043.01.EC
pH (25°C)		9.2 – 9.9	L6550.280.01.EC
% Transmission	%	52 min.	L6550.523.01.EC
Viscosity (25°C / 77°F)	cPs	45 max.	L6550.545.01.EC
Specific Surface Area	m ² /g	198 – 258	L6550.005.02.EC
Alkalinity as Na ₂ O	% m/m	0.39 – 0.46	L6550.005.01.EC
Sulfates as Na ₂ SO ₄	% m/m	0.08 max.	L6550.277.01.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	Comments
Density	g/cm ³ , 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	
Biocide	ppm	240	

LUDOX® HS-40 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 for this particle size

www.grace.com

GRACE®, Talent | Technology | Trust™, and LUDOX® are trademarks, registered in the United States and/or other countries, of W. R. Grace & Co.-Conn. This trademark list has been compiled using available published information as of the publication date of this brochure and may not accurately reflect trademark ownership or status. Grace Materials Technologies is a business unit of W. R. Grace & Co.-Conn. © Copyright 2016 W. R. Grace & Co.-Conn.

21 Jan 2016

Page 1 of 2

Packaging Information

The standard packaging for LUDOX® HS-40 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 Colloidal Silica is a synthetic amorphous silica dispersed in a stable form in water. Additional information can be found in our Safety Data Sheet (SDS). 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

World Headquarters

W. R. Grace & Co.-Conn.
7500 Grace drive
Columbia, Maryland 21044 USA
Tel.: +1 410.531.4000
NA Toll Free: +1 800.638.6014
Fax: +1 410.531.4273

Latin America

Grace Brasil Ltda.
Rua Albion, 229-10o andar, cj104
Lapa – Sao Paulo – SP/Brasil
Cep 05077 – 130
Tel: +55.11.3133.2704
Fax: +55.11.3133.2706

Europe

Grace GmbH & Co. KG
In der Hollerhecke 1
67547 Worms/Germany
Tel: +49.6241.403.00
Fax: +49.6241.403.1211

Asia/Pacific

Grace Trading (Shanghai) Limited
1010 Huai Hai Zhong Road
19th Floor, K Wah Centre
Shanghai, 200031/China
Tel: +86.21.3158.2888
Fax: +86.21.3158.2828

www.grace.com

GRACE®, Talent I Technology I Trust™, and LUDOX® are trademarks, registered in the United States and/or other countries, of W. R. Grace & Co.-Conn. This trademark list has been compiled using available published information as of the publication date of this brochure and may not accurately reflect trademark ownership or status. Grace Materials Technologies is a business unit of W. R. Grace & Co.-Conn. © Copyright 2016 W. R. Grace & Co.-Conn.