



RHOBARR™ 320 Barrier Dispersion

Regional Product Availability

- Global

Description

RHOBARR™ 320 Barrier Dispersion is an aqueous dispersion intended for paper barrier coating applications. RHOBARR™ 320 Barrier Dispersion can be used to provide a hot and cold liquid water barrier typically needed for cup stock. It also combines medium barrier against oil and grease in typical food packaging applications with excellent heat sealability.

RHOBARR™ 320 Barrier Dispersion has been designed for use in formulations targeted for paper barrier coating applications. This base dispersion can be formulated with rheology modifiers, waxes, pigments and other components as required, forming a liquid-resistant coating upon proper drying and film formation.

Typical Properties

Property	Typical Values
Appearance	White milky liquid
Solids, by weight, %:	43 ± 2.0%
Density (g/ml), wet	0.97 ± 0.2
pH	9.0-10.5
As manufactured viscosity ^a (Brookfield RV spindle #3, 50 rpm, 25°C), cps	<1500
Storage Precautions	Protect from freezing

These properties are typical but do not constitute specifications.

For product specifications, please contact Customer Information Group (CIG) of The Dow Chemical Company:
<http://www.dow.com/assistance/dowcig.htm>.

^a Product can associatively thicken over time. Thorough mixing should restore viscosity to typical range. Always mix well before using.

Formulation Guidelines

RHOBARR™ 320 Barrier Dispersion combines the performance of high-molecular weight polymers with the application advantages of high-solids waterborne dispersions. The dispersion can be applied directly to paper, paperboard, or to pre-coats such as styrene-acrylic, styrene-butadiene, pigmented systems, and starch using traditional wet application methods (e.g. air knife, rod, blade, curtain, gravure, printing, dipping, frothing, spraying, etc.). In typical use, the dispersion is applied to achieve a dry coat weight of 4 to 10 g/m² depending on end use and barrier requirements.

UNRESTRICTED – May be shared with anyone

©™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow Form No. 843-02438-01-NAR-EN-CDP



Drying conditions will vary depending on line speed and heating equipment. It is recommended that the surface temperature of the coating reach at least 80 °C to achieve proper film formation and drive off volatile material (e.g. water) to a suitable paper moisture level (application and type dependent, but typically 3-6 wt %).

Viscosity can be increased through the use of common rheology modifiers and thickening agents. Our experts recommend associative thickeners such as RHOPLEX™ RM-232D and PRIMAL™ RM-232DE. RHOBARR™ 320 Barrier Dispersion is also compatible with other, similar thickeners.

Viscosity can be decreased by diluting with basic water (pH > 7.5). 2-(dimethylamino) ethanol at 0.3 wt. % or a volatile base is recommended for adjustment of de-ionized water to the appropriate pH. RHOBARR™ 320 Barrier Dispersion can associatively thicken over time. Thorough mixing should restore viscosity to a typical range. Always mix well before using.

As with other waterborne dispersions, RHOBARR™ 320 Barrier Dispersion can be formulated with a range of additives to tune application and final coating properties. Components such as antifoaming reagents, pigments, and other additives should be added under agitation. Care should be taken to keep the formulation at a pH > 8 to reduce formation of precipitates.

For pigments, RHOBARR™ 320 Barrier Dispersion is compatible with slurries and dry powder. Follow pigment provider recommendations for effective use levels and dispersing aids for dry power pigments. Some dry powder pigments do not need a dispersing aid when used with RHOBARR™ 320 Barrier Dispersion. In lab tests, water barrier and oil/grease resistance for RHOBARR™ 320 Barrier Dispersion is maintained up to a pigment loading of 50 dry wt. % using, for example, talc, kaolin clay, and calcium carbonate.

RHOBARR™ 320 Barrier Dispersion can be blended with a range of other waterborne dispersions including HYPOD™ polyolefin dispersions and acrylic dispersions. Care must be taken to maintain a pH > 8 to reduce formation of precipitates.

Over-agitation or constant circulation of RHOBARR™ 320 Barrier Dispersion can lead to low levels of foaming. Addition of defoamer will lessen the effect. For food-contact applications, Bubreak® 4418 (Buckman) or comparable materials have been demonstrated to be effective.

For clean-up, wet RHOBARR™ 320 Barrier Dispersion can be removed from equipment using water. When possible, avoid cleaning with hard water as this can lead to precipitation.

**Handling
Precautions**

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

Storage

Store products in tightly closed original containers at temperatures recommended on the product label.

**Disposal
Considerations**

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Coating Materials Technical Representative for more information.

**Product
Stewardship**

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

Contact:

North America: 1-800-447-4369
Latin America: (+55)-11-5188-9000
Europe: (+800)-3-694-6367
Asia-Pacific: (+800)-7776-7776
<http://www.dowcoatingmaterials.com>

Notice: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.



UNRESTRICTED – May be shared with anyone

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow Form No. 843-02438-01 NAR-EN-CDP