



Distributed in the Interest
of Product Development

VANDERBILT

Technical Data

DARVAN[®] 7-N Dispersing Agent for Ceramic Bodies and Glazes

R.T. Vanderbilt Company, Inc.
30 Winfield Street, P.O. Box 5150, Norwalk, CT 06856-5150
Telephone: (203) 853-1400
Fax: (203) 853-1452, Web Site: www.rtvanderbilt.com

Before using, read, understand and comply with the information and precautions in the Material Safety Data Sheets, label and other product literature. The information presented herein, while not guaranteed, was prepared by technical personnel and, to the best of our knowledge and belief, is true and accurate as of the date hereof. No warranty, representation or guarantee, express or implied, is made regarding accuracy, performance, stability, reliability or use. This information is not intended to be all-inclusive, because the manner and conditions of use, handling, storage and other factors may involve other or additional safety or performance considerations. The user is responsible for determining the suitability of any material for a specific purpose and for adopting such safety precautions as may be required. R. T. Vanderbilt Company does not warrant the results to be obtained in using any material, and disclaims all liability with respect to the use, handling or further processing of any such material. No suggestion for use is intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patent or to violate any federal, state or local law or regulation.

TECHNICAL DATA

Ceramic Department

DARVAN[®] 7-N Dispersing Agent

for Ceramic Bodies and Glazes

DARVAN 7-N, a sodium polymethacrylate, is a clear to slightly opalescent colorless liquid. It shows very little tendency to foam.

PHYSICAL PROPERTIES

Molecular Weight:	10,000 to 16,000
Total Active Solids:	25.0 ± 2.0%
Density at 25°C:	1.16 ± 0.02 Mg/m ³
Weight per gallon:	9.5 to 9.8 lbs
pH:	9.5 to 10.5
Viscosity at 25°C:	75 cps maximum
Solubility:	Very soluble in water systems.
Stability:	Stable in the presence of acids and alkalies over a wide pH range.
Storage:	Freezes at -5°C. Protect from freezing. Partial freezing does not affect the product's dispersing properties.

APPLICATIONS

DARVAN 7-N is recommended for use in the preparation of casting slips made from whiteware and refractory compositions, and of spray-dried oxide and ferrite slips used in electronic ceramics. It is also used in glazes for rheological stability.

DARVAN 7-N produces slips with a wide casting range. Furthermore, the casting rate is not decreased to a marked degree, even though the slip is near the minimum viscosity point.

DARVAN 7-N produces slips that show little tendency to thicken on standing, or to become thixotropic. Ware cast from these slips is very plastic and easy to "scrap".

DARVAN 7-N in Whiteware Bodies

Most whiteware bodies are readily dispersed by the addition of 0.5 to 1% of **DARVAN 7-N**, based on dry body weight.

DARVAN 7-N allows slip viscosities of 60 to 120 seconds to be achieved, as compared to 90 to 120 seconds for slips dispersed with sodium silicate and soda ash. Slip viscosities of 65 to 95 seconds are recommended.

During the casting process, very little **DARVAN 7-N** is absorbed by the molds, and, under most factory conditions, a good casting slip can be made from 100% scrap just by adding water to give the desired fluidity.

Over

If used properly, **DARVAN 7-N** gives plaster molds a longer life than does the use of sodium silicate and soda ash.

Both drain and solid castware made from slips containing **DARVAN 7-N** can be left in the molds for long periods of time without cracking. Hobbyware consisting of difficult shapes is now made successfully on a commercial scale by leaving the ware in the molds for 6 to 24 hours. If the ware is to be left in the mold for a long time, the drain hole in the mold must be covered or the mold inverted onto a flat surface, in order to prevent surface drying around the drain hole.

A long set in the molds produces ware that is very easy to handle, and decreases the tendency of large pieces, e.g. vases, planters or sanitaryware, to warp or distort while drying.

Ware made from slips containing **DARVAN 7-N** can also be removed from the molds in the usual time of one to two hours, with the exception of heavy types of solid casts.

DARVAN 7-N for Glaze Dispersion

DARVAN 7-N provides sprayed glazes with outstanding viscosity stability.

DARVAN 7-N in Ceramic Compositions

DARVAN 7-N can be used where sodium oxide is not detrimental:

- Casting of Barium Titanate
- Casting of Zirconium Oxide
- Casting of Aluminum Oxide

DARVAN 7-N as a Grinding Aid

DARVAN 7-N has been tested in various applications as a grinding aid. Depending on the application, 0.005% to 0.1% has been reported to help dry grinding.

DARVAN 7-N as a Binder for Spray-Dried Bodies

DARVAN 7-N can be used as a binder in addition to its dispersing properties, at levels of about 2%.

DARVAN 7-N in Wastewater Treatment

DARVAN 7-N, either alone or in combination with flocculants, has proven successful in removing solids during wastewater treatment.

**For additional information regarding our
high quality minerals and chemicals,
please visit our website:**

www.rtvanderbilt.com

- Technical data sheets
- MSDS information
- Sample requests
- Specifications
- Product brochures
- Articles
- Presentations
- Reports