



Technical Data Sheet

## DURAMAX™ D-3019 Dispersant

DURAMAX™ D-3019 ceramic dispersant is the ammonium salt of a polyelectrolyte for dispersing a variety of ceramic powders in water. It is particularly useful for the dispersion of barium titanate and silicon metal. DURAMAX™ D-3019 ceramic dispersant is supplied as a 50% solution in water.

### Typical Physical Properties\*

Appearance	Pale yellow liquid
Total Solids (%)	50
Molecular Weight	~2300 daltons
Viscosity (Brookfield #1, 60 rpm)	500 cP
pH	6.5 - 7.5
Residue After Firing	2.6% (air)

\*These properties are typical but do not constitute specifications.

### Typical Use Procedure

#### Alumina

DURAMAX™ D-3019 ceramic dispersant (1.79 g, 0.6 mg/m<sup>2</sup> powder), de-ionized water (129.54 g), and Alcoa A-16SG alumina (308 g, 9.7 m<sup>2</sup>/g) were combined in a 00 jar with 710 g alumina grinding media and milled for 30 minutes.

#### Barium Titanate

DURAMAX™ D-3019 ceramic dispersant (0.86 g, 1.3 mg/m<sup>2</sup> powder), de-ionized water (103.3 g), and barium titanate powder (Cerac, 350 g, 1.9 m<sup>2</sup>/g) were combined in a 00 jar with 710 g alumina grinding media and milled for 30 minutes.

### Recommended Use Levels (mg D-3019/m<sup>2</sup> surface area)

The recommended use level of a dispersant is a function of powder surface area, not powder weight. For this reason, recommended use levels are given in units of weight dispersant (as supplied) per unit surface area of powder.

Al <sub>2</sub> O <sub>3</sub>	0.6 mg/m <sup>2</sup>
BaTiO <sub>3</sub>	1.3 mg/m <sup>2</sup>
Si (metal)	11.2 mg/m <sup>2</sup>
Si <sub>3</sub> N <sub>4</sub>	0.09 mg/m <sup>2</sup>

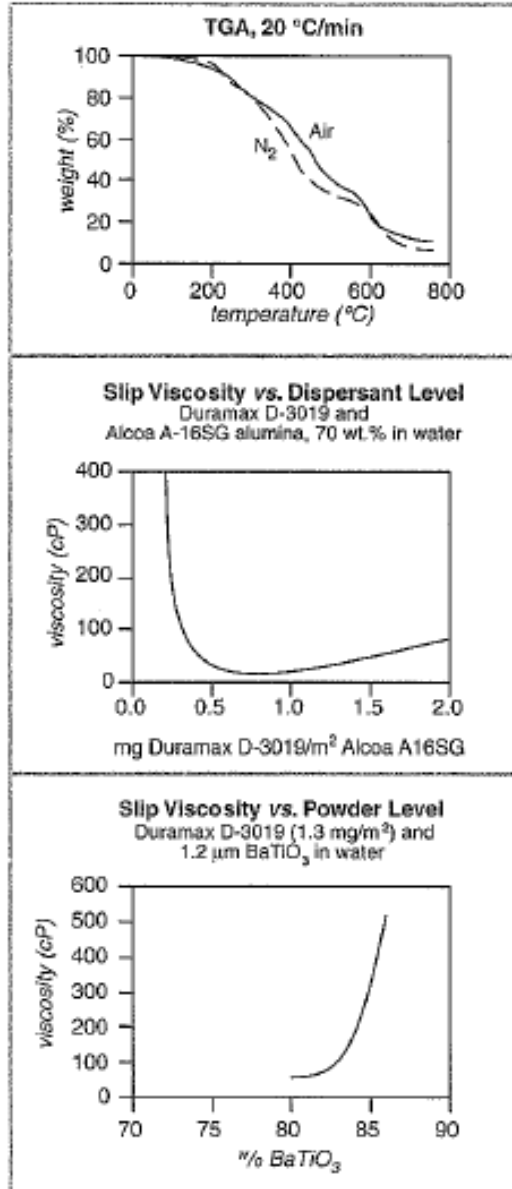
UNRESTRICTED – May be shared with anyone

©™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow  
DURAMAX™ D-3019 Dispersant

Form No. 812-00412



Technical Data Sheet



UNRESTRICTED – May be shared with anyone

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow  
DURAMAX™ D-3019 Dispersant

Form No. 812-00412

## 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.

### Latin America:

Argentina	+0800 2660569
Brazil	+0800 0474714
Chile	+1230 020 1124
Columbia	+01800 5182475
Costa Rica	+805 0877 4101
Dominican Republic	+1877 7209160
Honduras	+877 0811 4101
Mexico	+01800 0834913
Nicaragua	+001800 2202170
Peru	+0800 77508
Uruguay	+000 411 0026429
Venezuela	+0800 1002557

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.

