



## Technical Data Sheet

### ACUSOL™ 573G Polymer

Dispersant polymer for household and industrial and institutional dishwashing applications

#### Features & Benefits

ACUSOL™ 573G Polymer is a suitable co-builder and a dispersant polymer in automatic dishwashing and warewash matrixes. The following advantages can be obtained from using this polymer:

- High performance in both phosphonate and non-phosphate systems. This includes matrixes that may contain carbonate, phosphonate, citrate, silicate, or other builders.
- Inhibits crystal growth, enabling it to prevent precipitation of insoluble salts.
- Improves filming on glassware, ceramic plates and flatware.
- Disperses precipitates in the cleaning bath to avoid settling and scale formation on hard surfaces.
- Can be used across a wide range of alkalinity levels, from medium to very alkaline formulations. Has a moderate to high solubility in caustic media (can be incorporated into NaOH or KOH based formulations).

#### Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
Appearance		White granular free-flowing
Chemical Nature		Polycarboxylate
Form		Partially neutralized
Bulk Density-loose	g/cc	0.6–1.0
Total Solids	%	92–94
pH as Supplied (@ 25.0°C)		4.0–7.0 (1% solution)
Dynamic Viscosity (mPa.s/cPs @ 25°C)		Not applicable

#### Description

ACUSOL™ 573G Polymer is a dispersant polymer that provides calcium and magnesium tolerance and threshold effect along with excellent phosphonate and silicate scale inhibition in automatic dishwashing (household) and warewash (Industrial and Institutional) applications. This dispersant, ACUSOL™ 573G Polymer, is commercially available in a liquid and a dried, granular format and comes partially neutralized.

**Description (Cont.)**

ACUSOL™ 573G Polymer is an excellent inorganic salts and calcium organic/inorganic complex scale inhibitor for both phosphonate containing and phosphate free automatic dishwashing formulations. Performance excellence is maximized in silicate formulations.

**Chemistry and Mode of Action**

- Anti-precipitation: ACUSOL™ 573G Polymer will increase solubility of precipitating salts by threshold effect thus increasing salt tolerance. Solubility enhancement reduces precipitation of low solubility inorganic salts (calcium organic/inorganic complexes and magnesium silicate in particular). This will significantly reduce film formation on glass and dishware.
- Crystal distortion: ACUSOL™ 573G Polymer gets entrapped into crystal lattices, preventing their growth and facilitating their breakage. Crystal growth modification, which deforms the growing inorganic salt crystals gives small, irregular, readily fractured crystals that do not adhere well to surfaces. This permits any crystals formed to be easily removed during cleaning operations.
- Dispersing properties: ACUSOL™ 573G Polymer exhibits good dispersing activity which prevents precipitated crystals or other inorganic or organic particles from agglomerating and depositing on surfaces.
- Binding: the chemical nature of ACUSOL™ 573G Polymer enables its use in specific applications where higher binding capacity vs.  $Mg^{2+}$ ,  $Ca^{2+}$ , and divalent metal ions is required.

**Dose Rate**

To obtain an optimal effectiveness this polymer should be used at levels between 5 and 225 ppm in the automatic dishwasher wash baths (household) and 20 to 200 ppm for industrial purposes. This will generally correspond to around 0.5%–5% (as solid) in detergent formulations for household applications and around 2%–10% (as solids) in detergent formulations in industrial and institutional applications.

ACUSOL™ 573G Polymer can be advantageously combined with other polymers, such as, ACUSOL™ 445, ACUSOL™ 420N, ACUSOL™ 425N, ACUSOL™ 441, ACUSOL™ 588 Dispersant, ACUSOL™ 460N Polymer product family for optimal performance.

**Handling Precautions**

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

**Usable Life and Storage**

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

**Limitations**

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

**Health and Environmental Information**

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, [dow.com](http://dow.com) or consult your local Dow representative.

## **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 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.

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