

 **PRODUCT  
SELECTION  
GUIDE**



DISPERSANT POLYMERS FOR HOUSEHOLD PRODUCTS  
AND INDUSTRIAL & INSTITUTIONAL CLEANERS

Recommended  
product applications

Product  
properties



Why choose ACUSOL™  
dispersant polymers

Product  
descriptions

# Why choose ACUSOL™ dispersant polymers



■ Demands are ever increasing for detergent formulations which are more effective in terms of performance and cost. Formulators therefore require dependable products and information which will enable them to develop such formulations rapidly.

Our unique range of ACUSOL™ dispersants are high-performing water-soluble polymers, designed to improve performance properties of detergent formulations for a full spectrum of household and industrial and institutional applications. Formulations made with ACUSOL™ dispersant polymers:

- Improve cleaning/detergency
- Reduce soil redeposition (superior whiteness retention)
- Minimise calcium salts encrustation on fabric
- Prevent scaling on equipment
- Minimise spotting and filming on glassware
- Allow for fast drying of surfaces
- Overcome shortcomings of phosphate-free formulations
- Reduce formulation costs



ACUSOL™ polymers are designed to meet the challenge of varying and troublesome cleaning or washing conditions such as water hardness, high alkalinity, varying temperatures, and machine types. ACUSOL™ polymers can also allow polyphosphate levels to be reduced while maintaining performance, as well as overcome the shortcomings of non-phosphate formulations.

We provide both liquid and dry grades to better address your processing needs. Furthermore, you can further choose between the acid and neutralized version of a specific grade. Acrylic acid, maleic anhydride and other vinyl monomers are polymerized to yield a wide variety of high performing water-soluble ACUSOL™ dispersant polymers.

Our latest extension to the dispersants product range is ACUSOL™ “GREAT”\* granulated polymers. GREAT polymers allow for optimization of both tablet and powder manufacturing processes thanks to their ideal particle size, higher densities and homogeneity.



\*GRanulation Equipment  
Advanced Technology

The information in this product selection guide will enable you to choose the polymers you need based on applications, product description, and desired properties.

All products outlined in this brochure are commercially available. For further information on these or our other polymers that are not listed in this brochure, please contact your Rohm and Haas sales representative or local distributor, or visit our website at [www.rohmhaas.com](http://www.rohmhaas.com).



## Recommended product applications

Application	Formulation specificity	Grades recommended	Polymer function in the formulation
Fabric wash  Powders  Tablets	Phosphate or Low phosphate & Zeolite	ACUSOL™ 445 / 445G / 445N ACUSOL™ 445 ND / 445NG ACUSOL™ 497N / 497NG ACUSOL™ 588 / 587G / 588G	anti-scalant for calcium carbonate dispersant for soils and insoluble builders dispersant and antiscalant for calcium phosphate
	Zeolite (No Phosphate )	ACUSOL™ 445 / 445G / 445N / 445NG ACUSOL™ 497N / 497NG	anti-scalant for calcium carbonate dispersant for soils and insoluble builders
	Citrate, Carbonate, Silicate (No phosphate nor Zeolite)	ACUSOL™ 420N / 420NG ACUSOL™ 470N ACUSOL™ 497N / 497NG	anti-scalant for highly precipitating builders dispersant for soils and insoluble builders anti-scalant and dispersant for highly precipitating builders
Liquid Laundry	Heavy Duty Liquid (High surfactant content)	ACUSOL™ 402 / 402N ACUSOL™ 460NK / 460N	anti-scalant for calcium carbonate anti-scalant and dispersant for calcium soaps salts
Additives	Water softeners (Phosphate, Zeolite, Carbonate, other precipitating builders)	ACUSOL™ 420N / 420NG / 425N / 425NG ACUSOL™ 470N ACUSOL™ 445 / 445G / 445N / 445NG ACUSOL™ 497N / 497NG ACUSOL™ 587G / 588 / 588G	anti-scalant for highly precipitating builders anti-scalant and dispersant for highly precipitating builders anti-scalant for calcium carbonate dispersant for soils and insoluble builders dispersant and anti-scalant for calcium phosphate
ADW  Tablets  Powders  Liquid	High and Low Phosphate	ACUSOL™ 425N / 425NG ACUSOL™ 445G / 445NG ACUSOL™ 587G / 588 / 588G ACUSOL™ 460ND / 460NK	anti-scalant for calcium carbonate dispersant for soils and insoluble builders dispersant and anti-scalant for calcium polyphosphate anti-spotting agent and dispersant for proteinaceous soils
	Citrate, Silicate, Carbonate (No phosphate)	ACUSOL™ 420N / 420NG ACUSOL™ 425N / 425NG ACUSOL™ 470N ACUSOL™ 460N / 460ND / 460 NK ACUSOL™ 588 / 588 G	anti-scalant for highly precipitating carbonates anti-scalant and dispersant for highly precipitating builders dispersant for soils and insoluble builders anti-spotting agent and dispersant for proteinaceous soils anti-scalant for highly precipitating silicates
	Liquid Cleaners	ACUSOL™ 190 ACUSOL™ 460N / 460NK	highly effective dispersant anti-spotting agent and dispersant for soils
Home Care	Bleach formulations	ACUSOL™ 420N/ 420NG ACUSOL™ 445 / 445G / 445N / 445NG ACUSOL™ 470N ACUSOL™ 190	anti-scalant and bleach stabilizer anti-scalant for calcium carbonate anti-scalant, dispersant and bleach stabilizer formulation stabilizer, highly effective dispersant
Industrial & Institutional	Fabric Wash ADW CIP Bottle Washing Metal Cleaning	ACUSOL™ 190 ACUSOL™ 402 / 402N ACUSOL™ 420N / 420NG ACUSOL™ 470N ACUSOL™ 445 / 445G / 445N / 445NG ACUSOL™ 497N / 497NG ACUSOL™ 505N ACUSOL™ 587G / 588 / 588G	formulation stabilizer, highly effective dispersant anti-scalant for calcium carbonate anti-scalant and bleach stabilizer anti-scalant, dispersant and bleach stabilizer anti-scalant for calcium carbonate dispersant for soils and insoluble builders dispersant and anti-scalant for calcium phosphate

## DISPERSANTS HOMOPOLYMERS

Product	Molecular Weight	% Solids	Properties	Applications
ACUSOL™ 402 ACUSOL™ 402N	2 000	48 43	Calcium carbonate scale inhibitor (anti-encrustation).	Automatic dishwashing, I&I, Liquid laundry.
ACUSOL™ 420N ACUSOL™ 420NG	2 000	49 92	Anti-scalant for highly precipitating builders (anti-encrustation), dispersant for organic and inorganic soils (anti-greying). Anti-filming agent. Bleach stabilizer.	Automatic dishwashing, Fabric wash, Bleach cleaners.
ACUSOL™ 470N	3 600	40	Anti-scalant for highly precipitating builders (anti-encrustation), dispersant for organic and inorganic soils (antigreying). Anti-filming agent. Bleach stabilizer.	Automatic dishwashing, Fabric wash, Bleach cleaners.
ACUSOL™ 445 ACUSOL™ 445G ACUSOL™ 445N ACUSOL™ 445NG	4 500	48 92 45 92	Calcium carbonate scale inhibitor (anti-encrustation), dispersant for organic and inorganic soils (anti-greying). Anti-filming agent.	Automatic dishwashing, Water softeners, I&I, Bleach additives.
ACUSOL™ 190	19 0000	25	High calcium binding and dispersing capacity.	All purpose cleaners, metal cleaning.

## DISPERSANTS COPOLYMERS

Product	Molecular Weight	% Solids	Properties	Application
ACUSOL™ 497N ACUSOL™ 497NG	70 000	40 92	Dispersants for soils and insoluble builders, anti-greying and anti-encrustation agent, processing aid.	Fabric wash, Water softener, I&I, Automatic Dishwashing.
ACUSOL™ 460N ACUSOL™ 460ND ACUSOL™ 460NK	10 000	25 92	Lime soap dispersant, hydrotrope for surfactant rich formulations. Dispersant for organic and inorganic soils and anti-spotting agent.	Liquid laundry, Automatic Dishwashing.
ACUSOL™ 587G ACUSOL™ 588 ACUSOL™ 588G	11 000 12 000 12 000	92 37.5 92	Calcium polyphosphate scale inhibitor; dispersant for organic and inorganic soils. Anti-filming agent.	Automatic Dishwashing, I&I.
ACUSOL™ 425N ACUSOL™ 425 NG	1 900	50 92	Anti-scalant for highly precipitating builders (anti-encrustation), dispersant for organic and inorganic soils (anti-greying). Anti-filming agent. Bleach stabilizer.	Automatic Dishwashing, Fabric wash, Bleach cleaners.

*These values do not constitute specifications. All data subject to standard disclaimer.*

The alpha code refers to the form of the polymer - "N" denotes neutralized, "D" denotes dry form, "G" denotes granular form, and "K" contains a preservative.

PROPERTIES	SPECIFIC ACTION	ACUSOL™ HOMOPOLYMERS			ACUSOL™ COPOLYMERS			
		402 402N	420N 420NG	445/445G 445N/445NG 445ND	497N 497NG	460N 460ND 460NK	587G 588/588G	425N 425NG
Crystals	Calcium Carbonate	Good	Excellent	Good	Good	NR	NR	Excellent
	Calcium Polyphosphate	Average	Average	Average	Average	NR	Excellent	Average
Inhibition	Sulphate salts	Good	Excellent	Good	Good	Average	Average	Excellent
	Silicate salts	Average	Average	Average	Average	Average	Excellent	Average
Dispersion of Insoluble	Calcium Carbonate	Good	Excellent	Good	Good	Average	Average	Excellent
	Calcium Polyphosphate	Average	Average	Average	Average	Average	Excellent	Average
Salts and Particles	Zeolite	Good	Good	Good	Good	Average	Good	Good
	Organic Soils	Average	Average	Average	Good	Excellent	Average	Average
	Lime Soap salts	NR	NR	NR	NR	Excellent	NR	NR
Bleach Stability		Excellent	Excellent	Excellent	NR	Average	Good	Excellent
Processing Aid		Good	NR	Excellent	Excellent	NR	NR	Good

The ACUSOL™ Dispersant polymers encompass a broad range of compositions and molecular weights; these variations result in different combinations of performance properties. Choosing the right polymer is a matter of determining which set of capabilities represents the closest match to an application's performance requirements. The above table summarizes the capabilities of different Acusol dispersants in key performance areas.

## Material Safety Data Sheets

Rohm and Haas Company maintains Material Safety Data Sheets (MSDS) on all of its products. These contain important information that you need to protect your employees and customers against any known health and safety hazards associated with these products.

We recommend you obtain copies of MSDS for our products from your local Rohm and Haas technical representative or the Rohm and Haas Company. We also suggest that you contact your supplier of other materials recommended for use with our products for the appropriate health and safety precautions before using them.



*For more information about our products and services, contact us at:*

**[www.rohmhaas.com](http://www.rohmhaas.com)**

*Rohm and Haas Primary Materials*

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