



Technical Data Sheet

ACUSOL™ 830 Rheology Modifier

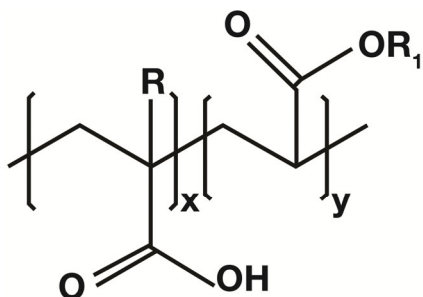
ACUSOL™ 830 Rheology Modifier is an alkali swellable acrylic polymer emulsion (ASE) that when neutralized above pH 7 thickens instantly to a highly viscous solution. ACUSOL™ 830 Rheology Modifier is offered at 28% solids and is stable from pH 6.5 to 12 and compatible with polar solvents and electrolytes and exhibits minimal viscosity drift over time.

Features & Benefits

- Flat pH/viscosity response
- Compatible with polar solvents
- Forms clear to semi-translucent solutions/gels
- Pigment suspension
- Short flow (not stringy)
- No change of viscosity vs. time

Composition

- ASE polymers are synthesized from acid and acrylate co-monomers and are made through emulsion polymerization



R, R₁ can equal Hydrogen or an alkyl chain.

Applications

- Alcohol-based formulations
- Nonpolar solvent formulations

Typical Properties

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

Property	Unit	Result
Appearance		Opaque, white to off-white liquid
pH (as supplied)		3
Solids content	%	28
Viscosity (as supplied)	cP	10
Charge		Anionic
Eq. Weight ¹		218
Density		1.05

1. Grams of dry polymer neutralized by 1 equivalent (40 grams) of NaOH

Formulation Uses and Guidelines

ASE Polymers

ACUSOL™ ASE rheology modifiers are compatible with surfactants, solvents, oils and electrolytes commonly found in household, fabric and institutional care products. These products undergo instantaneous thickening when neutralized with base.

ASE polymers are supplied as low pH, low viscosity emulsions and can be incorporated directly into formulations with none of the concerns about dissolution, particulate clumping or dusting problems that can be encountered with dry products. ACUSOL™ ASE polymers are also cold processable.

Rapid Mixing Technique

ACUSOL™ ASE rheology modifiers undergo instantaneous thickening when a base is added. An in-line mixing technique using a static mixer along with a simple pump affords a convenient, rapid means of producing thickened solutions and gels. The solutions prepared by this technique are free from air bubbles. Upon neutralization, ACUSOL™ ASE emulsions become clear, highly viscous dispersions.

ASE Formulation Tips

The preferred order of addition when using ACUSOL™ ASE rheology modifiers in aqueous formulations is as follows:

1. Add ACUSOL™ rheology modifiers to the water.
2. Add other ingredients from the most acidic to the most alkaline. (Note: strongly acidic components should be at least partly neutralized before adding to emulsions of ACUSOL™ rheology modifiers.)
3. Add the neutralizing agent.

If this sequence is not desirable, ACUSOL™ ASE polymers can be added directly to an alkaline formulation after first diluting the ACUSOL™ product with two parts of water. Addition of the water prevents gel particles (small particles with neutralized swollen surfaces and unneutralized cores that will take considerable time to completely dissolve).

**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**

Keep from freezing; material may coagulate. The minimum recommended storage temperature for these materials is 1°C/34°F. The maximum recommended storage temperature is 49°C/120°F. These materials may coagulate if exposed to temperatures outside this range. The coagulation process is irreversible.

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 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.

Customer Notice

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