

NUMBER 5051

## Jaypol™ AT1

### *Acrylic Associative Thickener for Water-Based Systems - Coatings*

#### Product Overview

Jaypol AT1 is an alkali soluble acrylic based associative thickener specifically designed for use in aqueous systems requiring a newtonian rheological behavior.

#### Benefits

- Superior film build
- Less roller spatter
- Improved flow and levelling whilst retaining sag resistance.
- Compatibility with pigments, extenders and emulsion resins
- Good water resistance
- Resistance to bacteria attack
- Thickening cost (ease and low level of use)
- Improved brush load

#### Applications / Uses

Jaypol AT1 provides an excellent balance between high and low shear viscosities, and an excellent compatibility with most organic and inorganic pigments and amongst other uses is particularly effective in silk and flat emulsion paints.

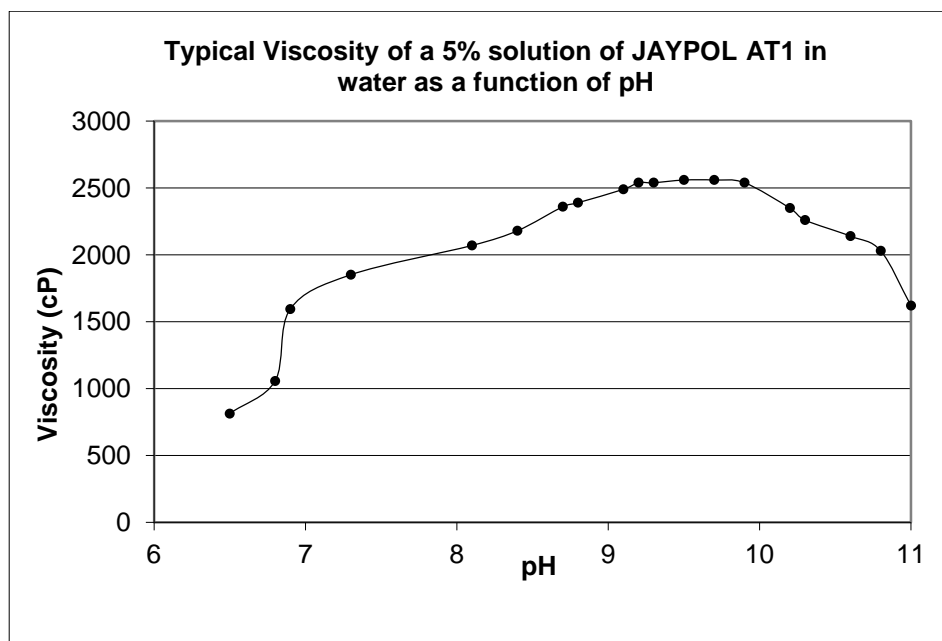
#### Performance Data

Jaypol AT1 gives aqueous systems very high viscosity at the high shear rates normally encountered under brush or roller application, thus imparting excellent film build whilst maintaining easy application properties. Furthermore, roller spatter is significantly reduced. Levelling, and at the same time sag resistance, is improved. Jaypol AT1 gives excellent results with acrylic emulsion binders and good results with most other commonly used emulsion resins. Jaypol AT1 is compatible with most commonly used pigments, extenders and emulsion binders.

Most tinted emulsion paints thickened with Jaypol AT1 show none of the adverse effects which are often encountered with other associative thickeners (e.g.: increase in viscosity with time and flocculation of the pigments). Jaypol AT1 provides excellent colour development, excellent stability with either organic or inorganic pigments, good gloss and gloss retention and excellent resistance to bacteria and enzymes.

Jaypol AT1 is supplied as a ready to use product, its low viscosity renders it easy to handle and to disperse.

Jaypol AT1 develops its thickening properties in neutral or alkaline medium, as shown on the following graph:



Neutralization at pH = 8.5 of 1000 g of Jaypol™ AT1 requires:

- 90 g of NH<sub>4</sub>OH 28% (specific gravity = 0.898),
- 170 g of caustic soda 30% (specific gravity = 1.33).

## Usage Notes

Jaypol AT1 is stable if appropriately used. Thermal decomposition emits toxic fumes carbon monoxide / carbon dioxide. Avoid alkalis, aluminum and iron. In respect of handling no specific technical measures are required. Observe general health & safety rules (avoid contact with skin; wear goggles and gloves etc.). In the event of spillage, clean skin with plenty of water and soap. Flush eyes with water and a buffer solution. It must be stored at a temperature above 5°C and below 40°C, protected from direct sun exposure. This sheet to be read in conjunction with its corresponding Material Safety Data Sheet.

## FORMULATION NOTES:

The most effective and stable viscosity is obtained when the plateau part of the pH viscosity curve is reached. The final pH of the paint should be adjusted within the range 8-9. Lower pH's can lead to flocculation and viscosity instability.

Jaypol AT1 can be added to an aqueous formulation in the form supplied or in a 1 :1 blend of Jaypol AT1 in water carefully neutralized to a pH of 8.5 before addition. In either case the pH of the formulation should not fall below 8. If necessary the medium to be thickened can be pre-neutralised to a pH of 9.0 before any addition of Jaypol AT1 is made.

The exceptional thickening efficiency of Jaypol AT1 allows its use at lower addition levels whilst maintaining excellent rheological and application properties.

Since Jaypol AT1 is an associative thickener, its efficiency will depend on the chemical structure and particle size of the binder, the nature of its protective colloid and the choice of coalescing agents. However, typical use levels for Jaypol AT1 fall in the range 0.3% - 1.5% by weight of active ingredient on the total formulation weight.

## Physical Properties

Description:	Jaypol™ AT1 is an alkali swellable acrylic based associative thickener
Appearance (@ 20°C):	low viscosity, white milky liquid
Odour:	odourless
Specific gravity (@ 20°C):	approx. 1.06 g/cm <sup>3</sup>
Solubility:	soluble in water
Solids content:	approx.30 %
Flash point (open cup):	exceeds 100 °C
pH (@ 20°C):	approx. 3