

# TECHNICAL BULLETIN

## PAPER CHEMICALS

### ***POLYMER FOR PAPER ECOPOL-14U***

#### ***1. DESCRIPTION***

ECOPOL-14U is a cationic guar which provides excellent retention benefits for a wide variety of applications. It provides strength and retention aid in the secondary fiber market. EOPOL-14U has a good affinity for cellulose fiber because it is similar in configuration to cellulose. Cationic nature of ECOPOL-14U along with its moderate molecular weight makes it excellent for overall retention without the shear and formation problems associated with other retention aids

#### ***2. BENEFITS***

- RETENTION
- DRAINAGE AND DRYING
- RUNNABILITY
- DYE RETENTION
- EFFLUENT REDUCTION
- INCREASED PRODUCTION
- IMPROVED OVERALL PERFORMANCE
- IMPROVED OPTICAL EFFICIENCY OF PIGMENTS
- SUPERB FIBER FINES RETENTION IN HIGH SHEAR FORMING
- STRENGTH IMPROVEMENTS IN SECONDARY FIBER SYSTEMS
- GREATER WET END STABILITY BECAUSE EP-13 DOES NOT BUILD UP IN WHITE WATER.
- IMPROVED GENERAL WET AND CLEANLINESS DUE TO RETENTION OF FINES, PIGMENT AND ANIONIC TRASH REMOVAL.

#### ***3. TYPICAL PROPERTIES***

Appearance	Yellow free flowing powder
Dispersibility at 25 <sup>0</sup> C	Excellent
Moisture %	6-10
Viscosity, 1.0% at 25 <sup>0</sup> C (Brookfield RVT at 20 RPM)	3000-4000
pH, after 60 minutes	6-7

#### **4. OPTICAL EFFICIENCY**

ECOPOL-14U forms much smaller flocs than high molecular weight polyacrylamides. This helps the even distribution of the pigment on the sheet which results in better optical efficiency and opacity. In many cases it helps to cut on TiO<sub>2</sub> costs.

#### **5. INCREASED PRODUCTION**

ECOPOL-14U acts as drainage aid and also as a drying aid in dryers which can increase the production significantly. This property is related to the unique molecular configuration of ECOPOL-14U.

#### **6. RAW MATERIAL COSTS SAVINGS**

ECOPLO-14U has the ability to retain pigment, dyes, filter and fines which can significantly cut raw material costs.

#### **7. ADDITION TO PAPER MACHINE**

##### **A. Level of Addition**

Amount varies depending on the fiber furnish and the desired benefits but usually in the range of 0.2-2.0 lbs per ton. For strength and retention in secondary fiber systems the range is 3-6 lbs per ton.

##### **B. Point of Addition**

Usually after the point of last high shear for most applications for optimal results.

##### **C. Concentration**

The solution concentration should be 0.1% before it is fed to the machine.

#### **8. SOLUTION PREPARATION**

ECOPOL-14U is easily dispersible and can be incorporated into water without the use of an eductor. Make 0.75% concentration by dispersing the powder into a container of cold water with good agitation and adjust the pH of solution to about 6.0. Allow it to mix for about 20 minutes. Dilute this solution to 0.1% before adding to the pulp furnish. This addition should be preferably after the last high shear.

#### **9. PUMPING**

Maximum solution viscosity at 0.75% is 2000cps.

#### **10. STORAGE AND HANDLING**

Store in dry place and keep container sealed when not in use so as to prevent it from absorbing moisture. Wet material is very slippery. Avoid breathing dust, contact with eyes and skin which may be irritating.

#### **11. FDA STATUS**

ECOPOL-14U meets the following requirements of 21 CFR Section.

176.170 - Paper and Paperboard Aqueous and Fatty Foods

176-180 - Paper and Paperboard - Dry Foods