

# Fluorescent Whitening Agents For Paper



## **MEGA WHITE BOP (EXTRA)**

### **APPLICATION**

Multipurpose FWA for high whiteness levels

### **FORMULATION**

Environmentally friendly product

### **SPECIAL BENEFITS**

Economical

Works well in size press application.  
Reaching high whiteness levels

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## MEGAWHITE BOP (EXTRA)

Megawhite BOP (Extra) is a terasulpho type Fluorescent Whitening Agent [FWA] for paper. It has a broad Spectrum of application, good general properties and is largely unaffected by pH.

**Uses**                    **Megawhite BOP (Extra) in the wet end.**

Megawhite BOP (Extra) is an appropriate FWA to be used in sized, unfilled and filled papers and boards at pH 4 - 9 as well as in upsized paper, provided water hardness is above 50 ppm CaO.

### **Megawhite BOP (Extra) at the size press**

**Megawhite BOP (Extra)** works well in starch based size press liquors, and in combination with CMC, PVA and synthetic binders.

To obtain the best possible results with **Megawhite BOP (Extra)**. The base papers should be produced at a pH no lower than 5.

### **Megawhite BOP (Extra) in the coating.**

**Megawhite BOP (Extra)** is used in coating mixes containing combinations of natural and synthetic binders and the usual pigments at pH 7-11 for low to medium whiteness. The FWA effects is largely dependent on the type and amount of co-binder used, such as

Starch, CMC, PVA, etc.

<b>Properties</b>	<b>Appearance</b>	Bright yellow, Fine powder.
	<b>Chemical constitution</b>	Diaminostibene disulphonic acid derivative
	<b>Solubility</b>	50 g/l at 25 °C
	<b>PH</b>	8.0 10.0
	<b>Density at 25 °C</b>	0.85 g/CM <sup>3</sup>
	<b>Ionic character</b>	Anionic
	<b>Storage stability</b>	



### • **Shade**

Megawhite BOP (Extra) gives a neutral shade in all applications. It only has a tendency to produce a greenish hue if too large amounts are used.

### • **Fastness Properties**

The product's light fastness and stability to acids and alkalis are comparable to those of other fluorescent whitening agents with the same chemical constitution.

### • **Ecology/toxicology**

The usual hygiene and safety rules for handling chemicals must be observed in storage, handling and use.

Median lethal dose in rats (LD50) is about 5300-mg/kg-body weight. Tests with rabbits showed no irritation on the skin or mucous membranes.

The product is partially eliminated by the micro-organisms in activated sludge and does not impair their effectiveness in amounts of up to 300mg/l. Trout withstand up to 1000 mg/l (the highest concentration tested) on brief exposure (48 hours).

### • **Megawhite BOP (Extra) in the wet end application**

Megawhite BOP (Extra) can be added either batch wise in the pulper or mixing chest or continuously at suitable dosing points in the stock preparation system.

Care must be taken that the product is applied prior to either alum or cationic auxiliaries.

Although Megawhite BOP (Extra) has medium to high affinity for cellulose, the whiteness depends on the treatment time and the consistency of the furnish. The best effects is dosed at a points where the furnish is of high consistency. This is particularly important is soft water is being used.

Average dosage 0.05-1.0% *Megawhite BOP (Extra)* {based on the weight of bone dry Cellulose}.

### • **Megawhite BOP (Extra) at the size press application**

Megawhite BOP (Extra) performs well with the conventional starch qualities used at the size press. It can be used together with CMC, PVA, and anionic and weakly cationic and weakly cationic synthetic sizing agents. Its effectiveness is influence by the Ph of the base paper. The best effects are obtained if the pH of the base paper is above 5.

Average dosage 0.5 - 7.5 g/l *Megawhite BOP (Extra)* in size press liquor.



In as special case, e.g. if liquor pick-up is low owing to the condition of the equipment and/or hard sized base paper, amounts of up to 25g/l can be used.

The required whiteness level can usually be obtained cost effectively by optimally dividing application of the FWA between the furnish and the size press.

### **Megawhite BOP (Extra) in coating.**

FWAs of the diaminostilbene disulphonic acid derivative class do not have adequate affinity for coating pigments and synthetic lattices base on copolymers of acrylic acid ester or butadiene styrene. To achieve the best effect with FWAs co-binders are essential as carriers.

Suitable carriers for Megawhite BOP (Extra) are (in order of decreasing effectiveness) PVA, CMC, starch and synthetic co binders.

The best effects of Megawhite BOP (Extra) are obtained with the following amounts of co-binders, based on solids content:

PVA	1.2parts
CMC	1.2parts
Starch	6.0parts
Synthetic co-binders	0.4parts

For reasons of rheology and printability it is not always possible in production to use as sufficient amount of co-binders that promotes the best whitening effects. In this case we recommend using our boosted FWA products.

To a very limited degree, cross-linking agents based on melamine and urea formaldehyde are also effective as carriers for FWAs.

Megawhite BOP (Extra) can be used at pH 7-11 and does not affect the rheological properties of various coating colours.

Megawhite BOP (Extra) can be added undiluted at almost any stage in the preparation of coating compounds.

*Average dosage 0.2 - 1.0 parts based on the coating pigment.*

The information and recommendations contained in this data sheet are to the best of our knowledge correct, but no guarantee is given in this respect and no responsibility can be accepted for the results obtained.