

# MEGAWHITE PL-1

## FLUORESCENT WHITENING AGENT FOR PLASTICS

### INTRODUCTION :

Optical whiteners function by absorbing ultraviolet radiation and re-emitting blue light. The emitted blue light will reduce the yellowness of a polymer and provide the whiter-than-white appearance.

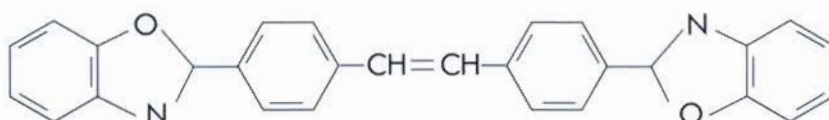
**Megawhite PL-1** optical brighteners significantly improve the whiteness in both textile fibers and plastics. In polyester and nylon fibers, **Megawhite PL-1** optical brighteners impart a pleasing whiter-than-white appearance and give more intensity to some colors as well. Because of its excellent brightening ability, good thermal stability, and compatibility with many polymers, **Megawhite PL-1** is an effective brightener for many plastics. **Megawhite PL-1** provides an excellent white, permanent color since the brightener is dissolved in the polymer or fiber during manufacturing. This permanence gives much better brightness retention over time versus other methods such as bleaching or surface treatment with optical brighteners.

**CHEMICAL NAME :** 2,2'-(1,2-Ethenediyl-di-4,1-phenylene)bisbenzoxazole

**EMPIRICAL FORMULA :**  $C_{28}H_{18}N_2O_2$

**CAS :** 1533-45-5

### CHEMICAL STRUCTURE :

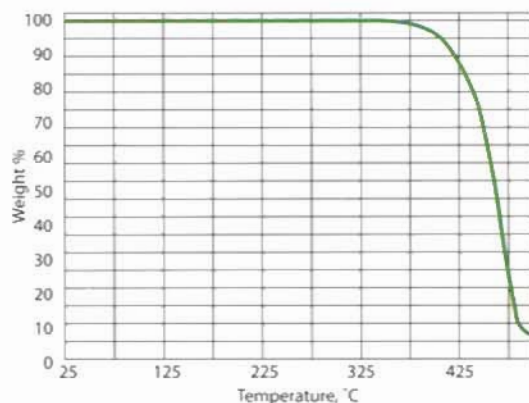


### PHYSICAL PROPERTIES :

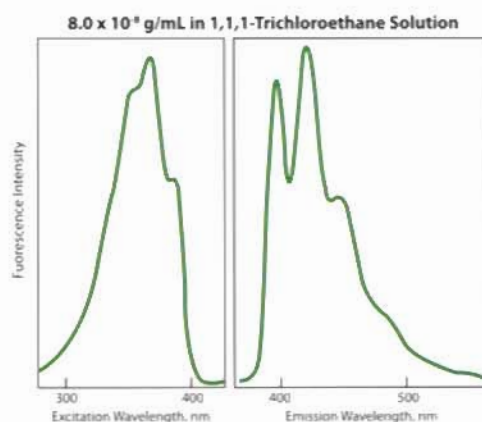
Appearance	Yellowish crystalline powder
Molecular Weight	414.3 gm/ml
Melting Range	365-370°C
Ash	0.1%Max
Assay	99% Min
Volatile Matter	0.15% Max
Specific Gravity	1.39 g/cm <sup>3</sup>
Decomposition Temperature	> 400

## ABSORPTION SPECTRUM

Thermal Gravimetric Analysis (TGA)



Fluorescence Excitation Spectrum (Emission Wavelength 427 nm) and Emission Spectrum (Excitation Wavelength 370nm)



### APPLICATIONS :

**Thermoplastics** - **Megawhite PL-1** can be used to impart excellent brightness to various thermoplastics, including: polyvinyl chloride, polyethylene, polypropylene, polystyrene, polycarbonate, acrylics, polyolefin, adhesives, polyurethane, linear polyester, polyamides, rigid PVC and the like.

**Man-made fibers** - **Megawhite PL-1** imparts a lightfast brightness with good textile fastness properties to both PVC and acetate fibers. It has good effect on PP, PE, PU and Nylon-6.

### STORAGE :

**Megawhite PL-1** should be stored in a cool, dry area. Extended storage at elevated temperatures or exposure to direct heat or sunlight could reduce product life. Keep Container sealed when not in use.

### FEATURES :

- Easily dispersed optical brightener
- More efficient than other optical brightener
- Light reddish blue effects which compensate for yellowing
- Good light fastness and low volatility
- Highly compatible with a wide range of organic substrates especially fibers
- Excellent resistance to heat
- Useful as a tracer in clear coatings