

# Adam Gates & Company Long Pass Filter Dyes

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Dyes can be used in thermoplastics, epoxy systems  
solvent based inks and coatings.

[www.adamgatescompany.com](http://www.adamgatescompany.com)

# Optical Long Pass Filter Dyes

The spectrum of light is divided into three major sections. The Ultraviolet region goes from about 200nm to 400nm. The visible region goes from about 400nm to 750nm. The infrared region goes from about 750nm to 2000nm. This catalog includes formulations of our dyes which have been developed to be incorporated into polymers, such as acrylics and polycarbonate, to fabricate optical long pass filters used in a variety of applications. At present, we can develop filters with windows or cut-offs from 350nm to 1000nm.

## Maximum Sensitivity:

Because our dyes provide a sharp cut-off, from 0% transmission to 100% transmission, the filter exhibits excellent sensitivity to wavelength shifts. The sensitivity approaches that of glass filters.

## Computer Simulation:

Models are used to develop these formulations. This technology allows us to experiment with many combinations of dyes to get the optimum performance profile.

## Applications:

Long pass used in a variety of applications. These include: precision spectroscopy applications as band separators. In photometry applications long and short pass filters are used as order sorting or blocking filters, which are applied to a detector's window to eliminate any second- and third-order distortion. Long and short pass filters are also frequently used in Raman spectroscopy.

## Specifications:

When selecting long pass and short pass filters, it is important to consider three different specifications related to the product's wavelength ranges: cut-on / cut-off wavelength, transmission range, and rejection range.

A filter's cut-on / cut-off wavelength is typically represented as a single wavelength, such as "700nm." Barrier filters are also commonly referred to by their cut-on wavelength; for example, a "700nm long pass filter" cuts off at 700nm and passes all wavelengths (light) higher than this.

# Technical Data Sheet

Product Code: **500nm Long Pass**

Product Description: **500nm Long Pass**

## Properties

Appearance: **yellow free flowing powder**

Appearance in solution/plastic: **yellow**

Melting Point: **180°C +**

Transmission @ 505nm: **99%**

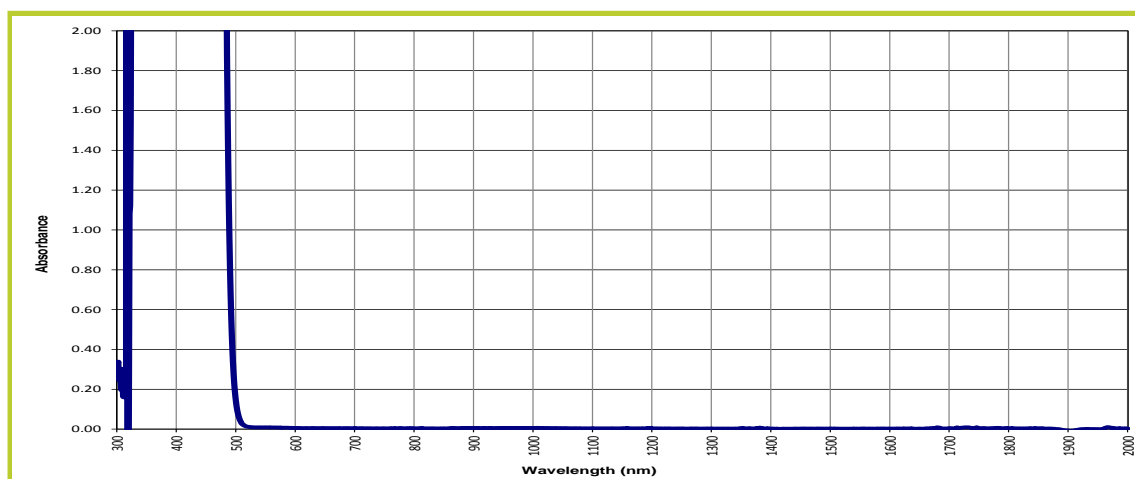
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **500nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light above 500nm is important.

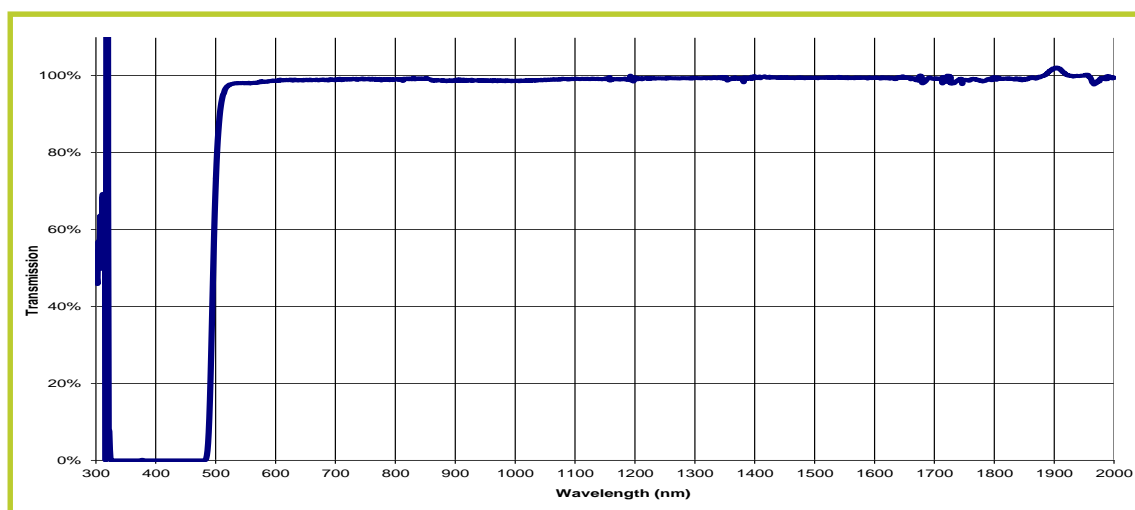
### Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 500nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

### Absorption Curve



### Transmission Curve



  
**Adam Gates & Company, LLC**  
Fine Chemicals and Near Infrared Dyes

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# Technical Data Sheet

Product Code: **600nm Long Pass**

Product Description: **600nm Long Pass**

## Properties

Appearance: **pink free flowing powder**

Appearance in solution/plastic: **orange**

Melting Point: **180°C +**

Transmission @ 600nm: **99%**

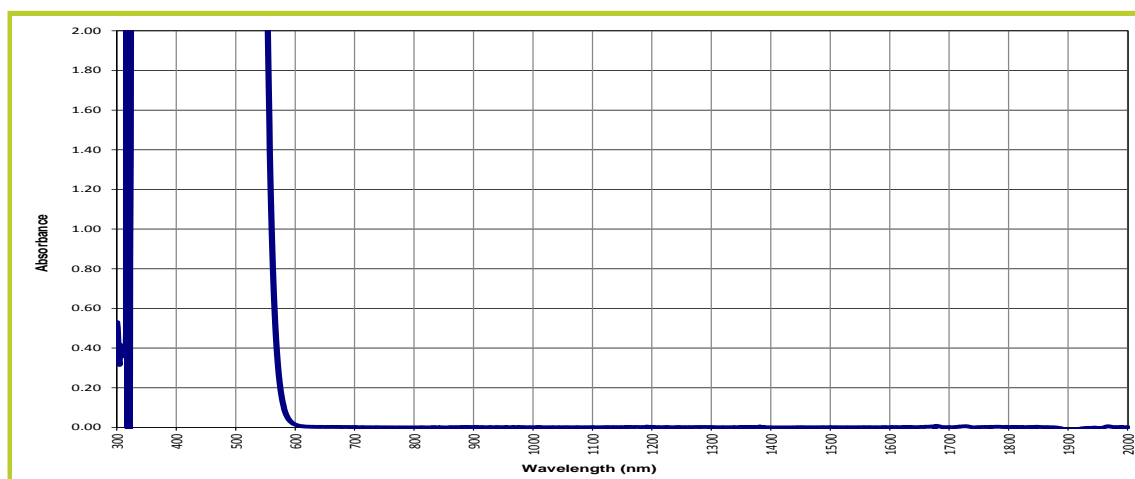
Solubility: **acetone, thermoplastics solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **600nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light is important.

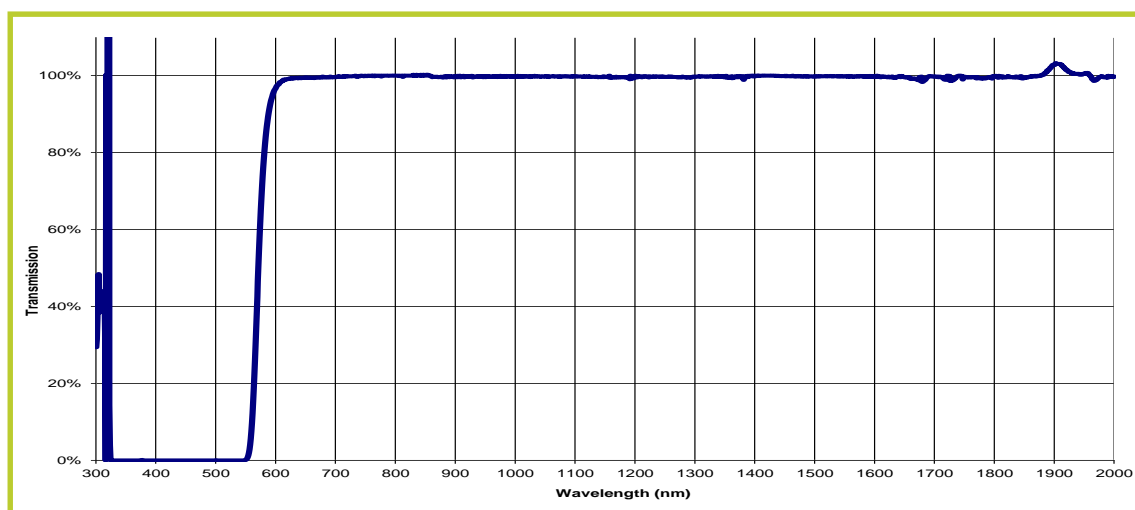
### Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 600nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

### Absorption Curve



### Transmission Curve



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# Technical Data Sheet

Product Code: **650nm Long Pass**

Product Description: **650nm Long Pass**

## Properties

Appearance: **blue/gray free flowing powder**

Appearance in solution/plastic: **green/black**

Melting Point: **180°C +**

Absorption @ 650nm: **100%**

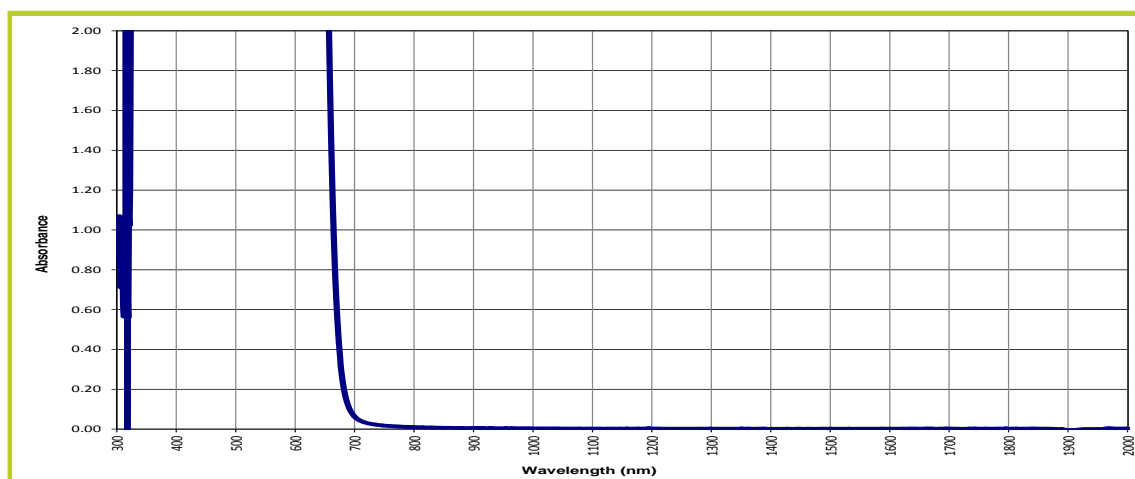
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **650nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light above 650nm is important.

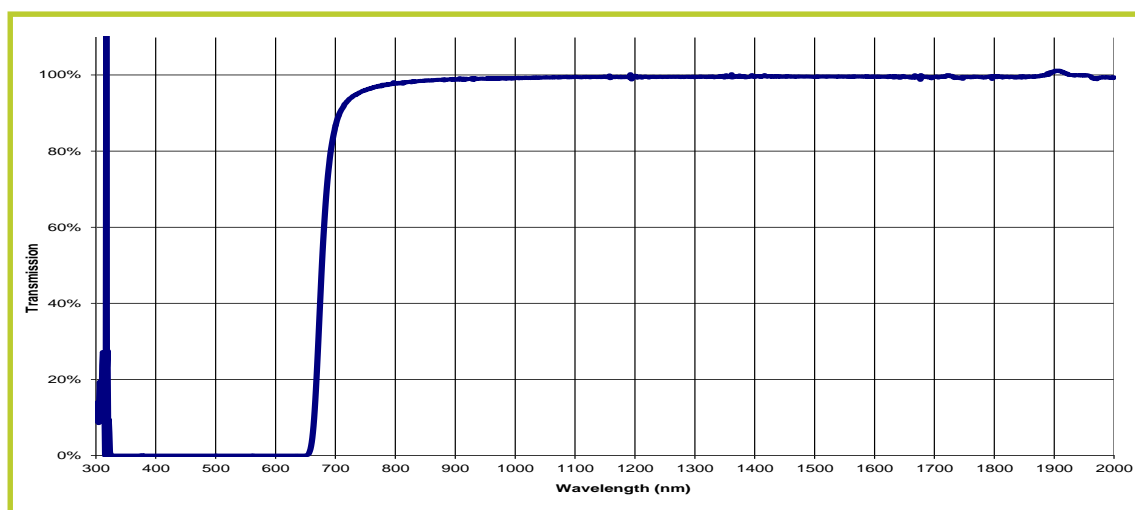
## Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 650nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

### Absorption Curve



### Transmission Curve



  
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# Technical Data Sheet

Product Code: **670nm Long Pass**

Product Description: **670nm Long Pass**

## Properties

Appearance: **orange free flowing powder**

Appearance in solution/plastic: **red**

Melting Point: **180°C +**

Transmission @ 670nm: **97%**

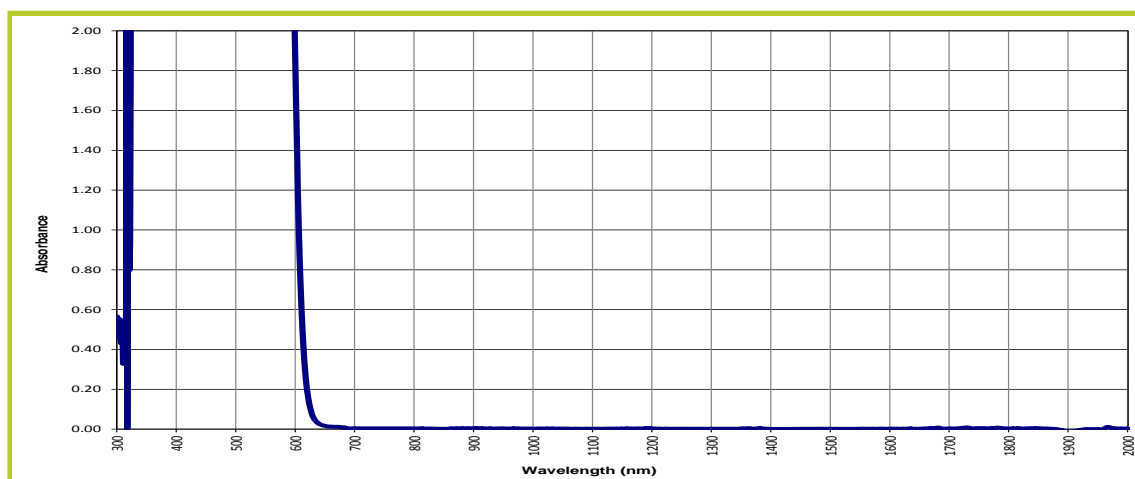
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **670nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light above 670nm is important.

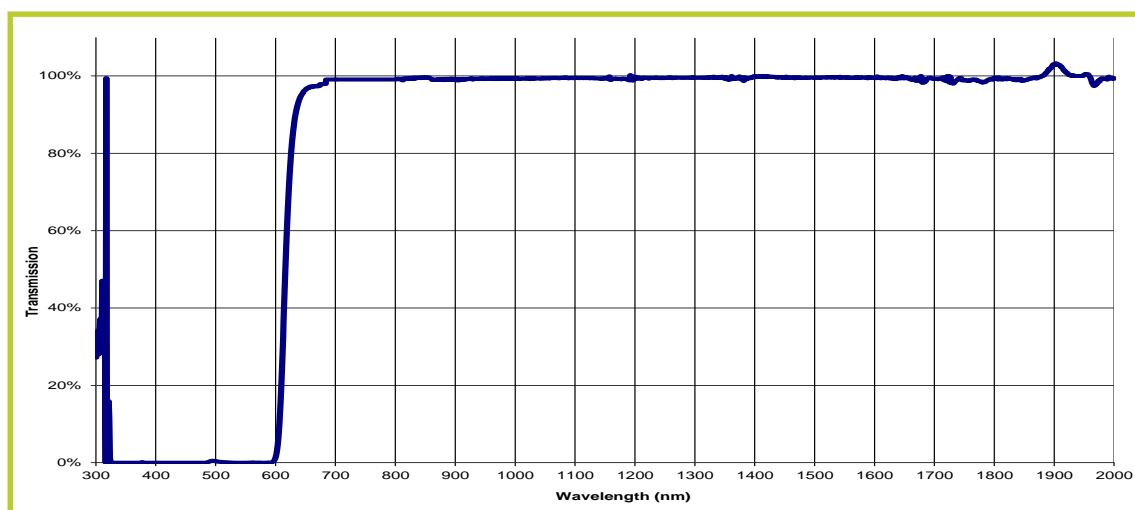
## Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 670nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

## Absorption Curve



## Transmission Curve



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# Technical Data Sheet

Product Code: **700nm Long Pass**

Product Description: **700nm Long Pass**

## Properties

Appearance: **orange mix free flowing powder**

Appearance in solution/plastic: **red/black**

Melting Point: **180°C +**

Absorption @ 700nm: **99%**

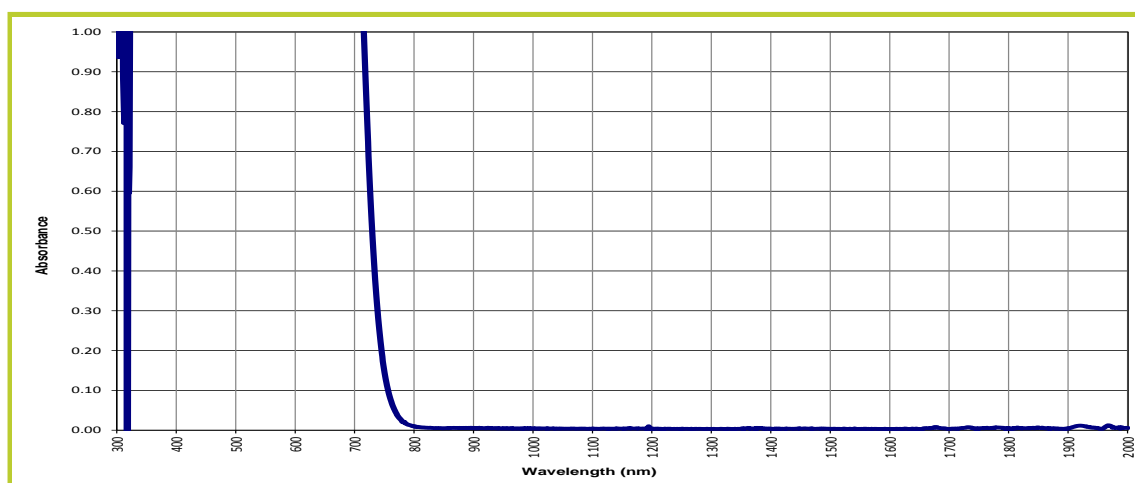
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **700nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light above 810nm is important.

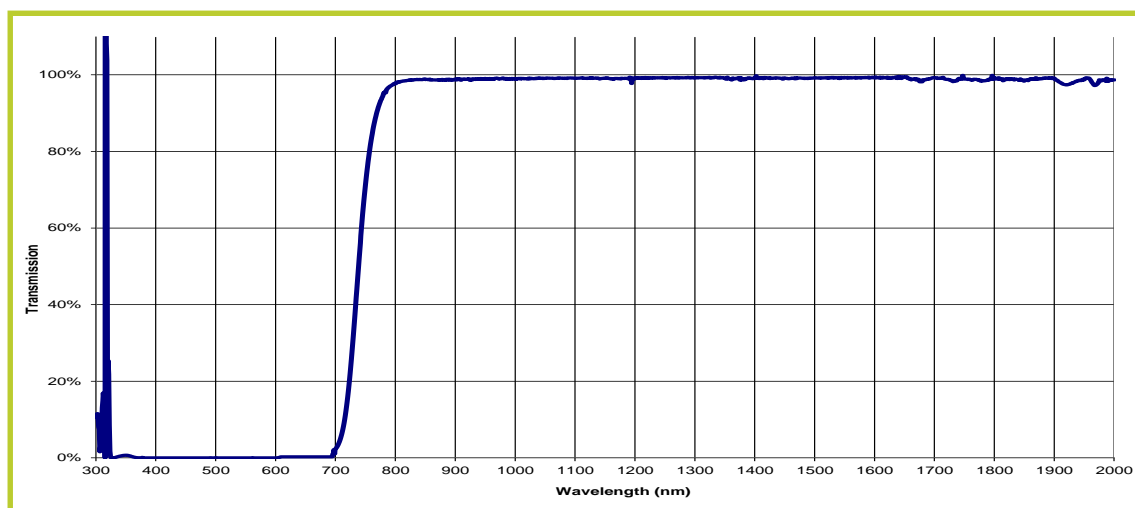
## Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 700nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

## Absorption Curve



## Transmission Curve



  
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# Technical Data Sheet

Product Code: **730nm Long Pass**

Product Description: **730nm Long Pass**

## Properties

Appearance: **orange free flowing powder**

Appearance in solution/plastic: **red/black**

Melting Point: **180°C +**

Absorption @ 730nm: **99%**

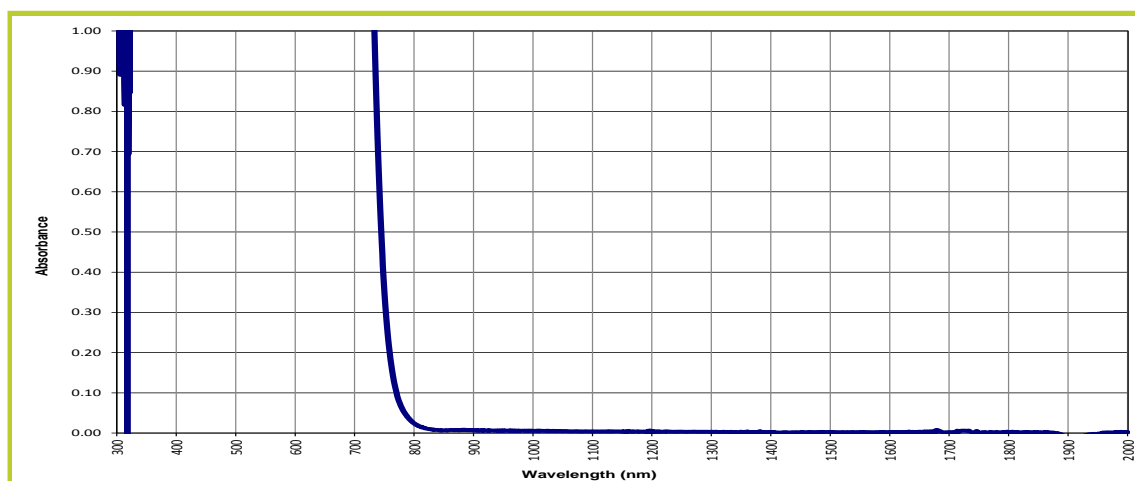
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **730nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light above 810nm is important.

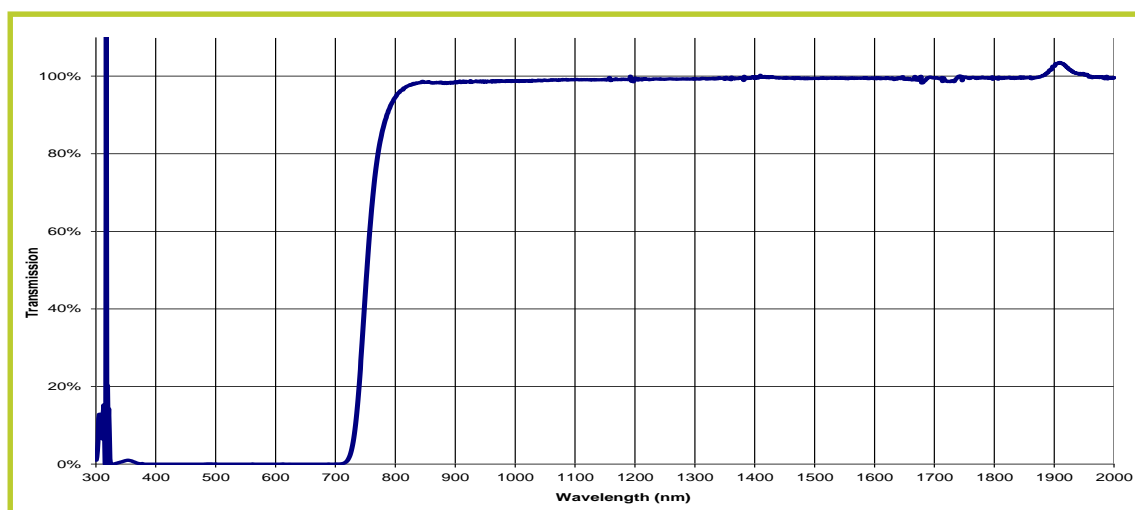
## Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 730nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

### Absorption Curve



### Transmission Curve



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# Technical Data Sheet

Product Code: **750nm Long Pass**

Product Description: **750nm Long Pass**

## Properties

Appearance: **orange mix free flowing powder**

Appearance in solution/plastic: **red/black**

Melting Point: **180°C +**

Absorption @ 750nm: **99%**

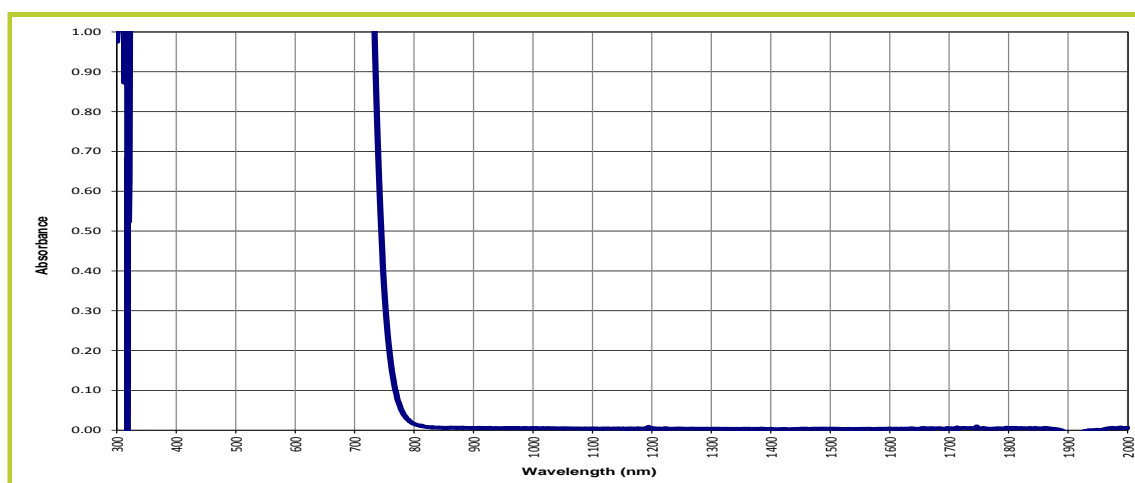
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **750nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light above 810nm is important.

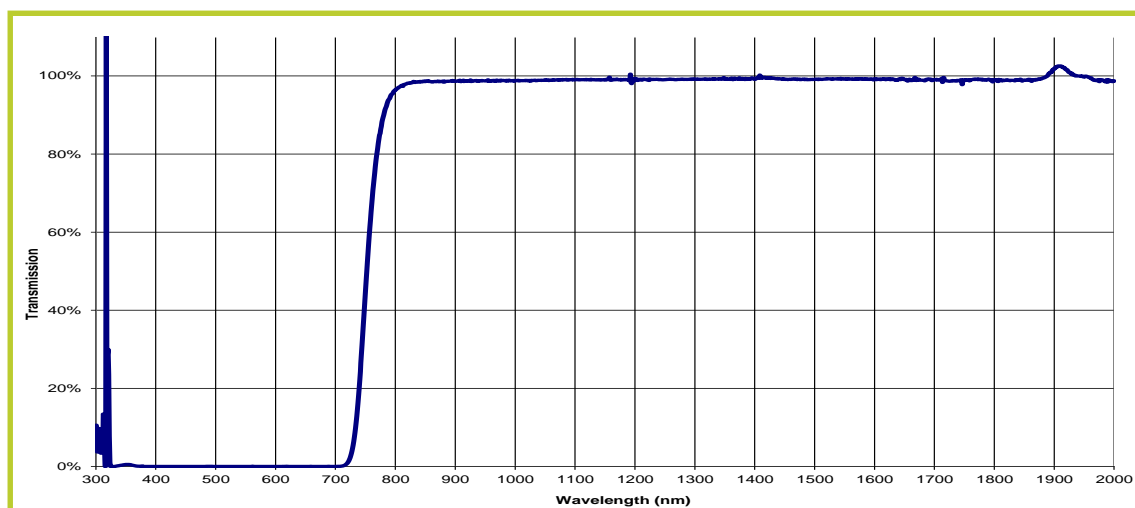
## Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 750nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

## Absorption Curve



## Transmission Curve



  
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# Technical Data Sheet

Product Code: **800nm Long Pass**

Product Description: **800nm Long Pass**

## Properties

Appearance: **orange black mix free flowing powder**

Appearance in solution/plastic: **black/green**

Melting Point: **180°C +**

Transmission @ 800nm: **99%**

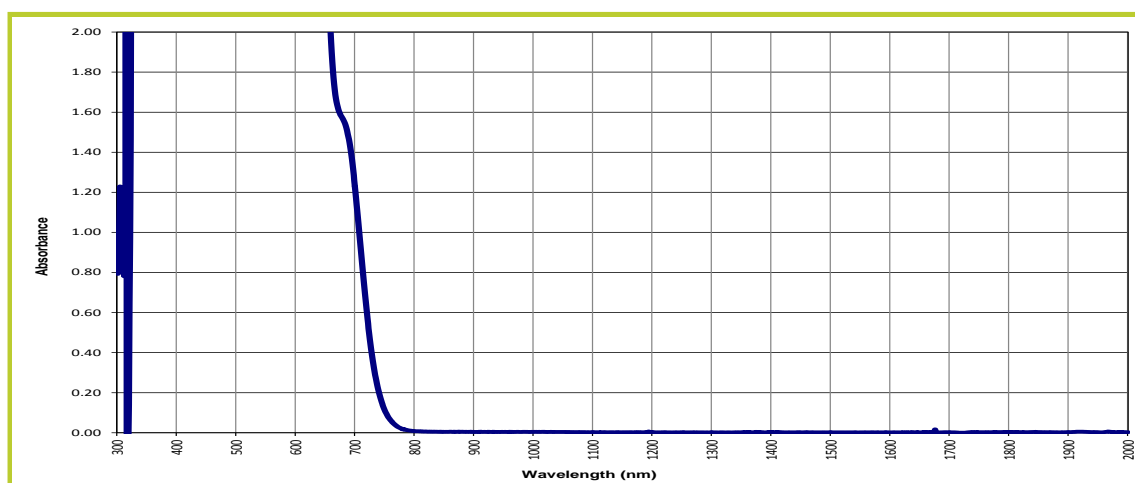
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **800nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light above 800nm is important.

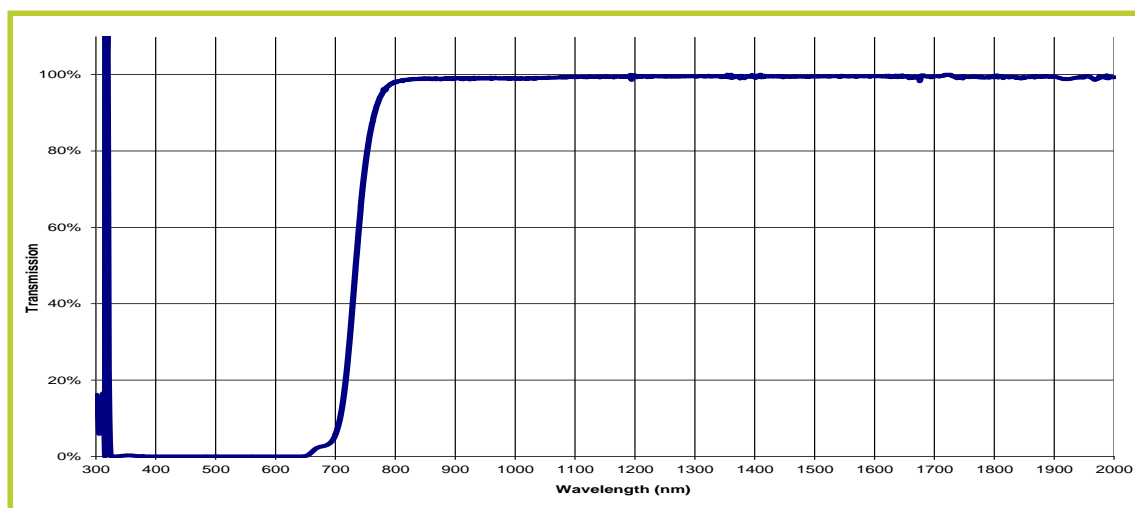
## Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 800nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

## Absorption Curve



## Transmission Curve



  
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# Technical Data Sheet

Product Code: **810nm Long Pass**

Product Description: **810nm Long Pass**

## Properties

Appearance: **red free flowing powder**

Appearance in solution/plastic: **red/black**

Melting Point: **180°C +**

Absorption @ 810nm: **99%**

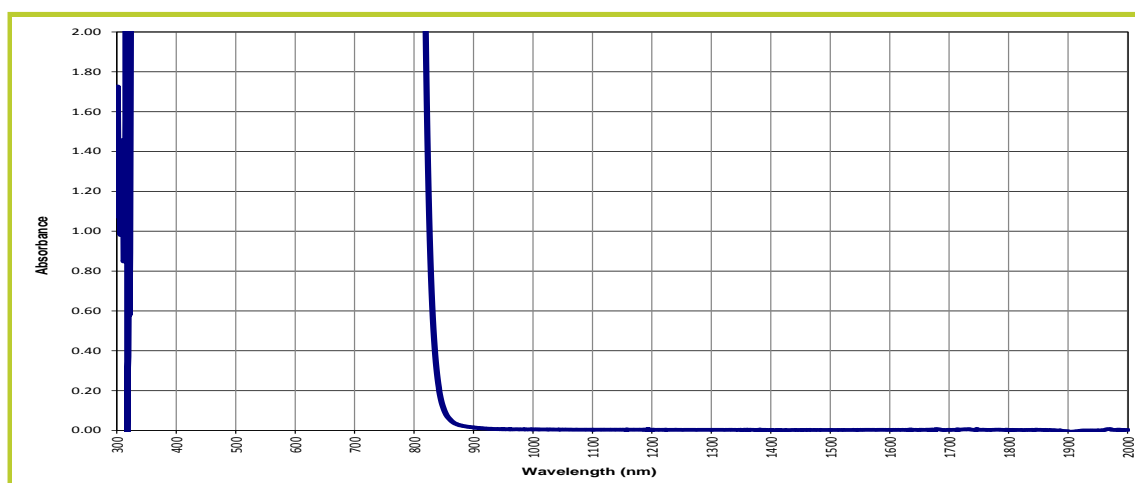
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **810nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light above 810nm is important.

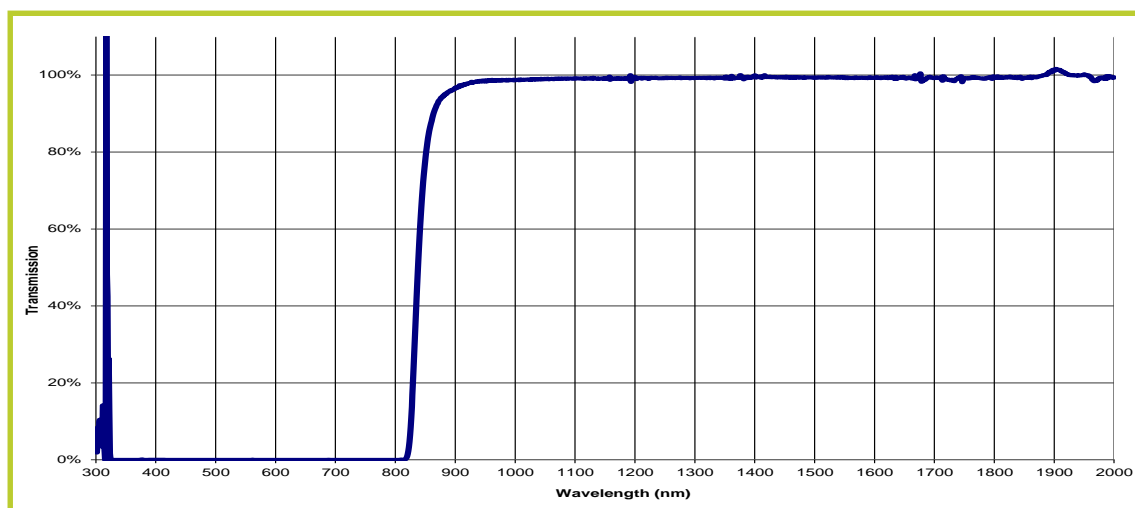
## Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 810nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

## Absorption Curve



## Transmission Curve



  
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# Technical Data Sheet

Product Code: **820nm Long Pass**

Product Description: **820nm Long Pass**

## Properties

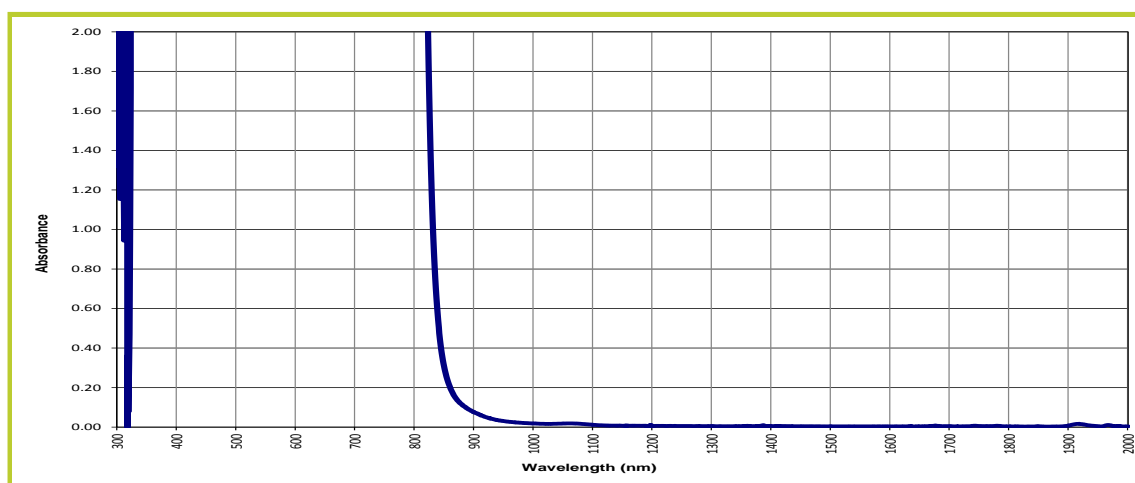
Appearance: **violet free flowing powder**  
Appearance in solution/plastic: **red/black**  
Melting Point: **180°C +**  
Absorption @ 820nm: **100%**  
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **820nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light above 820nm is important.

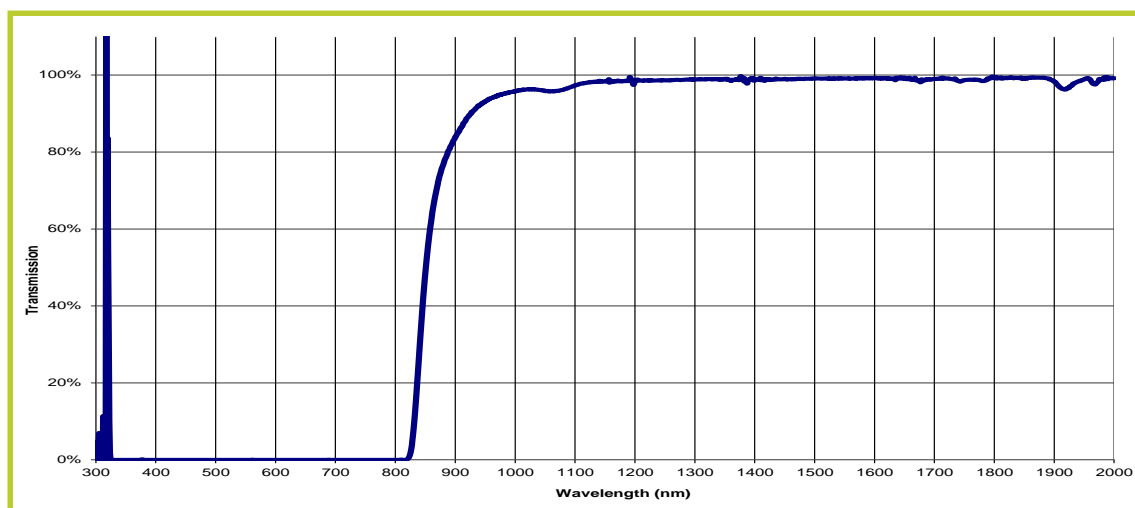
## Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 820nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

## Absorption Curve



## Transmission Curve



  
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# Technical Data Sheet

Product Code: **850nm Long Pass**

Product Description: **850nm Long Pass**

## Properties

Appearance: **orange mix free flowing powder**

Appearance in solution/plastic: **red/black**

Melting Point: **180°C +**

Absorption @ 850nm: **99%**

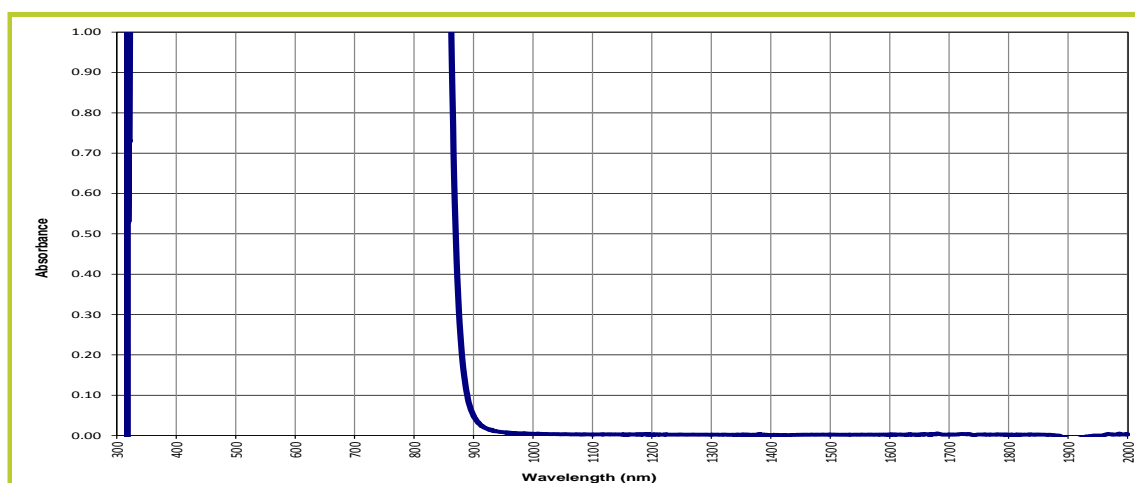
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **850nm LP** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light above 810nm is important.

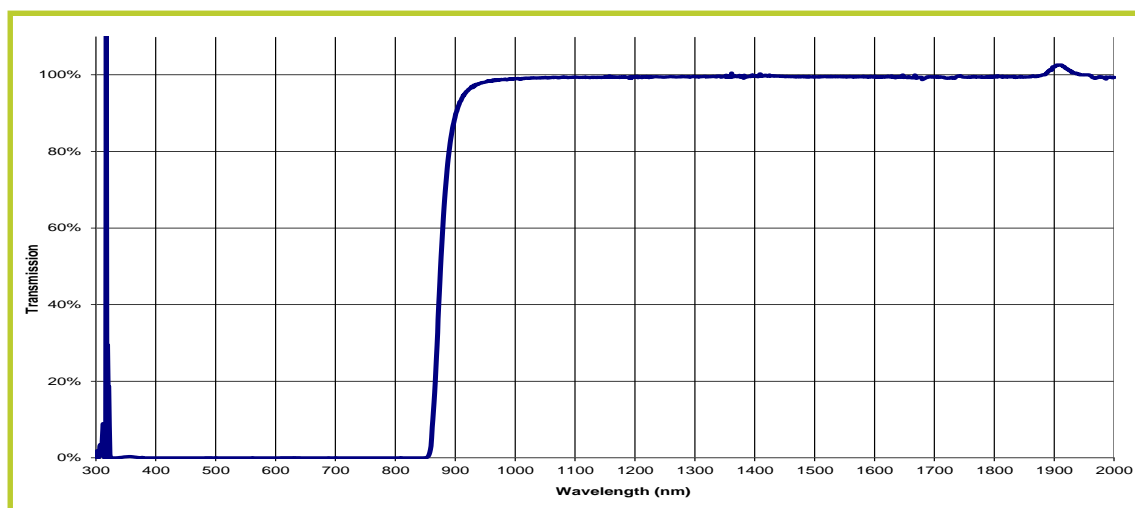
## Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light above 850nm. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone,

## Absorption Curve



## Transmission Curve



  
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# Technical Data Sheet

Product Code: **BLOCK VIS**

Product Description: **IR PASS DYE**

## Properties

Appearance: **orange black mix free flowing powder**

Appearance in solution/plastic: **black/green**

Melting Point: **180°C +**

Transmission @ 800nm: **99%**

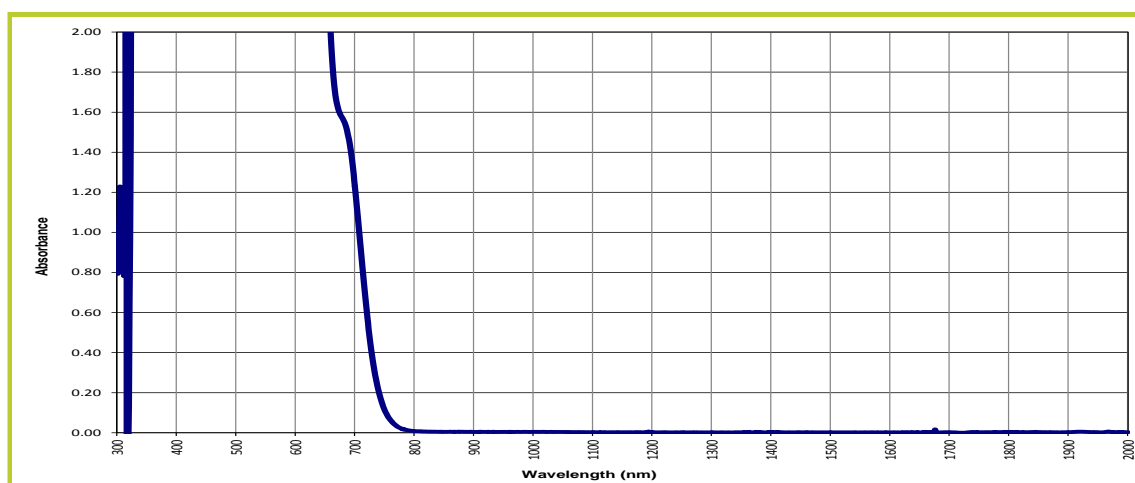
Solubility: **acetone, thermoplastics, solvent based inks, coatings and epoxy systems.**

Due to its' excellent balance of properties, **BLOCK VIS** finds use in a broad range of applications where the absorption of visible light, and the transmission of infrared light is important.

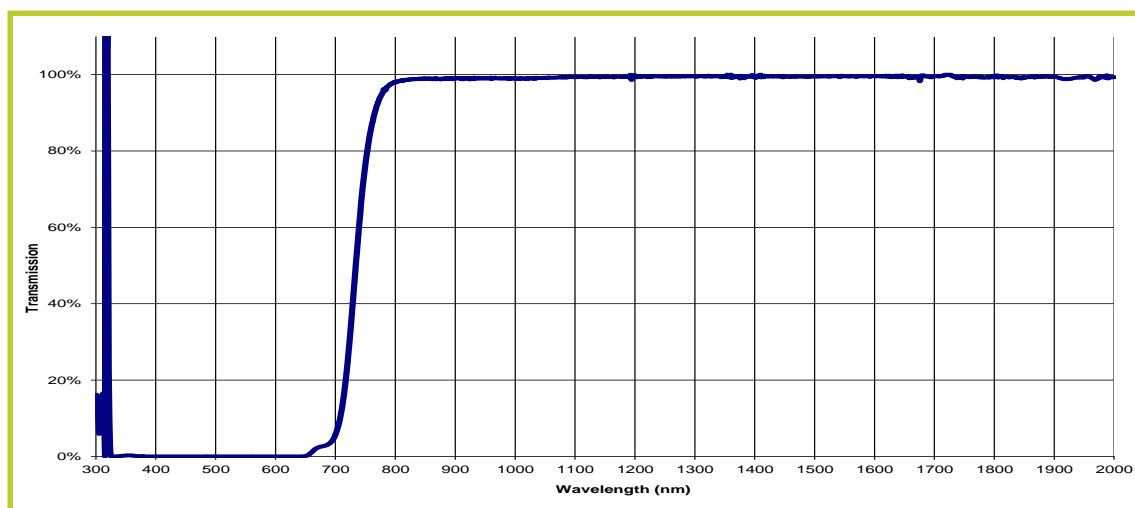
## Notes:

A formulated dye mixture designed to block transmission of visible light, while maximizing transmission of infrared light. This dye has the thermal stability to be processed into molded, or extruded polycarbonate. It has excellent solubility in oxygenated solvents such as acetone, MEK and

## Absorption Curve



## Transmission Curve



  
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# Adam Gates & Company

Fine chemicals and Near Infrared Dyes

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