

Technical Data Sheet

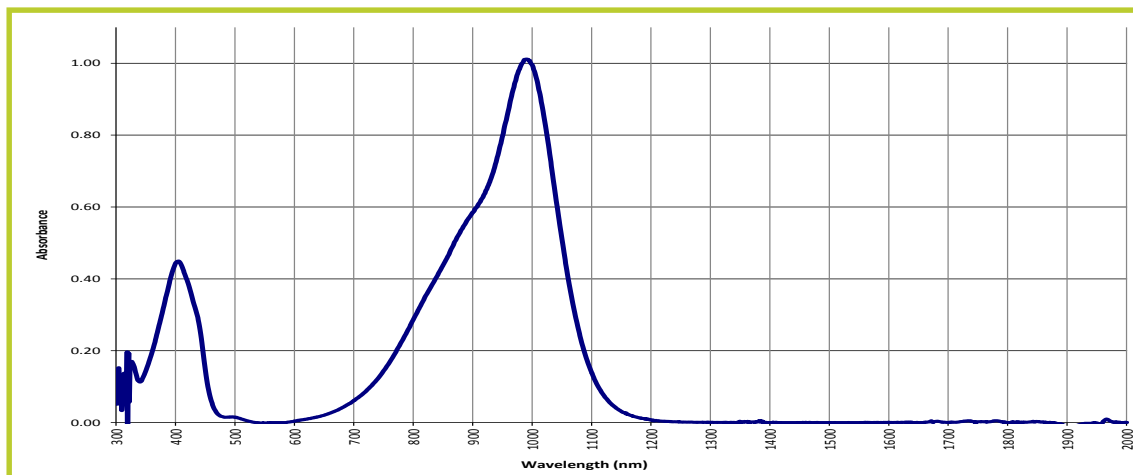
Product Code: **IR Dye 1311**

Product Description: **990nm NIR Dye**

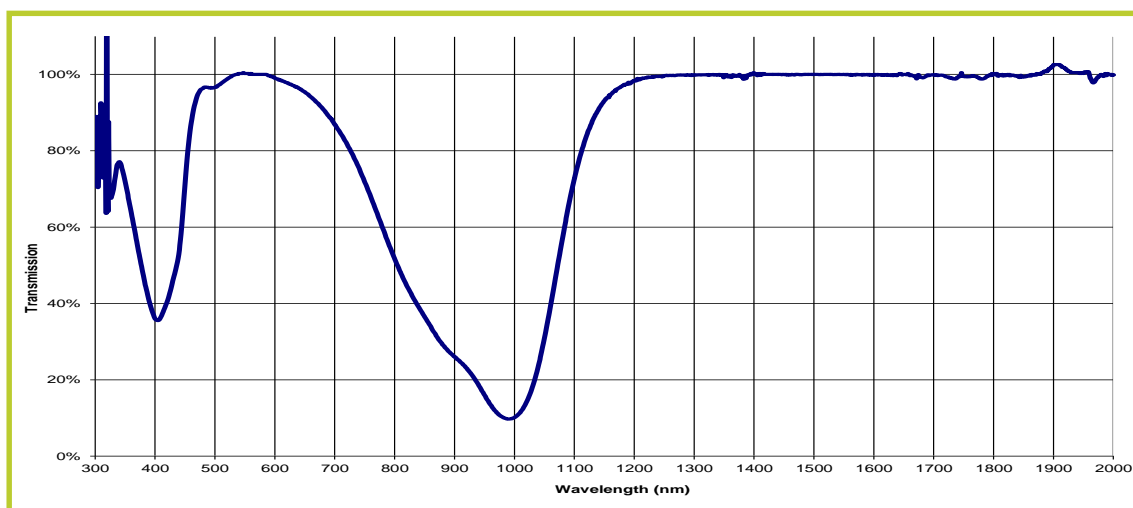
Properties

Appearance: **green free flowing powder**
Melting Point: **111°C – 112°C**
Lambda Max: **990 nm**
Absorptivity: **62 (L g⁻¹ cm⁻¹)**
Solubility (grams/100 grams of solvent):
Acetone, MEK >31, IPA 0.155, Et Acetate
2.8, THF 6.5, cyclohexanone 6.5

Absorption Curve



Transmission Curve



Due to its' excellent balance of properties, **IR Dye 1311** finds use in a broad range of applications where the absorption of Infrared light, and the transmission of Visible light is important:

Laser Eye Protection – Due to its' high absorptivity at 1064 nm, and high transmission of visible light, IR Dye 1311 is the dye of choice for medical, military and industrial polycarbonate eyewear to protect against the Nd:YAG laser. This dye has sufficient thermal stability for molding into small polycarbonate parts.

Acrylic Infrared Filters –With excellent solubility in PMMA this is the dye of choice for protecting against the Nd:YAG laser in acrylic filters and windows.

Inks and Coatings – Due to its' excellent solubility in a broad range of organic solvents, including methanol, IR Dye 1311 finds use in applications where the absorption of Infrared energy is needed in inks and coatings. When used in security inks, the dye is used to print a bar code, which can be read by an infrared bar code reader. The package is printed to make the bar code invisible to the human eye. This system is used to guarantee the authenticity of the contents of a package.

Use Concentration - Approximately 0.25 grams of dye per pound of PC gave an OD of 5 in a 3mm lens of 18 MFR PC.

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