

## Coomassie Brilliant Blue G-250

CAS Number: 6104-58-1

Storage Temperature: Room Temperature

### Product Description :

Appearance: Blue to red crystalline powder

Molecular formula: C<sub>47</sub>H<sub>48</sub>N<sub>3</sub>O<sub>7</sub>S<sub>2</sub>Na

Molecular weight: 854.04

The "G" in the name Brilliant Blue G refers to a blue dye with a greenish hue. The "R" in the name of Brilliant Blue R refers to a blue dye with a reddish hue.

Brilliant Blue G has been used in the Bradford dye-binding protein assay. A mechanism for dye binding to protein has been proposed, based on measuring Coomassie Brilliant Blue G-250 (CBBG) absorbance spectra during titration of the dye reagent in the absence of protein and its response to different polyamino acids. The CBBG dye reagent can exist in three forms: a cation (red form with maximum absorbance at 470 nm), a neutral form (green with maximum at 650 nm), and an anionic form (blue with maximum at 595 nm). The latter forms a stable complex with basic amino acid residues of proteins, mainly with arginine and aromatic amino acids. Although the anionic form exists in negligible concentration at the pH of the assay reaction mixture, the binding to protein shifts the equilibrium toward its formation.

Bradford Reagent is prepared with Brilliant Blue G and is supplied with usage instructions. It has been reported that the presence of vanadate (orthovanadate ion) in concentrations above 20-40 mmol/l in protein samples interferes with the Bradford microassay, but not the Bradford standard (non-microassay) method.

The presence of detergents such as SDS and strongly alkaline buffering agents also interfere with this protein assay. Brilliant Blue G has been used for determining critical micelle concentration of detergents.

### Preparation Instructions :

The product is soluble in water (1 mg/ml), yielding a dark blue solution. Heat may be required to completely dissolve the material. For staining proteins in polyacrylamide gels and agarose gels Brilliant Blue G can be prepared in a deionized water solution containing the following: 0.1% (w/v) Brilliant Blue G, 25% (v/v) methanol, and 5% (v/v) acetic acid.

### Storage/Stability:

Recommended storage is at room temperature. The minimum shelf-life should be three to five years.

### Precautions and Disclaimer :

For Laboratory Use Only. Not for drug, household or other uses.