

Technical Datasheet

Product Name: SDS-PAGE Loading Dye

Catalogue Number: BPBOI019

Concentration: 4X

Introduction:

SDS-PAGE Loading Dye is used for preparing protein samples for sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE). This dye contains SDS, which imparts a negative charge to proteins, and other components that facilitate sample loading and visualization. It is suitable for a variety of protein analysis applications.

Product Description:

The SDS-PAGE Loading Dye (4X) is a concentrated solution. SDS is a detergent that denatures proteins and imparts a negative charge, allowing for their separation based on size during electrophoresis. The glycerol ensures that the samples sink into the wells of the gel, and bromophenol blue provides visual tracking of the sample during electrophoresis.

Applications:

BioPioneer's SDS-PAGE Loading Dye (4X) is designed for:

- **Protein Sample Preparation:** Preparing samples for SDS-PAGE to separate proteins based on their molecular weight.
- **Gel Electrophoresis:** Assisting in the loading of protein samples into gel wells and tracking their progress during electrophoresis.

Composition:

The reagent is composed of sodium dodecyl sulfate (SDS), glycerol, bromophenol blue, and other stabilizers, provided as a 4X concentrated solution. Dilution is required as per use.

Protocol Overview:

1. Preparation of Samples:

- Dilute the SDS-PAGE Loading Dye 4X buffer or your sample to achieve the desired working concentration (typically 1X for use).

2. Assay Procedure:

- Add an appropriate volume of the loading dye to your protein sample (usually a 1:4 ratio of dye to sample).
- Load the prepared samples into the wells of the SDS-PAGE.

3. Electrophoresis:

- Run the gel according to your standard SDS-PAGE protocol.
- Monitor the bromophenol blue dye front to evaluate sample migration across the gel.

Note: This protocol provides a basic outline for using the SDS-PAGE Loading Dye 4X. Specific protocols may vary depending on the experimental requirements and gel conditions. Adjustments may be necessary to optimize the dye for different electrophoresis setups or sample types.

Storage Conditions:

Store the SDS-PAGE Loading Dye 4X at -20°C. Protect from light to prevent degradation of the dye. Ensure the reagent is tightly sealed to avoid contamination and evaporation. The reagent is stable for one year when stored under recommended conditions.

Warning and Precautions:

Always wear protective gloves, clothing, eye protection, and face protection. Handle with care as the reagent contains beta-mercaptoethanol, Sodium Dodecyl Sulphate etc. which can be harmful if inhaled, ingested, or in contact with skin or eyes. Adhere to good clinical laboratory practices when handling samples, and follow standard precautions as outlined in established guidelines. For detailed safety procedures, go through the product's Safety Data Sheet.

Safety Information:

The SDS-PAGE Loading Dye 4X is intended solely for laboratory applications and should not be used for human consumption. Always observe proper laboratory safety protocols, including wearing gloves and safety goggles when handling the buffer. It is not compatible with bleach-containing disinfectants. For details on hazards and safe handling procedures, please consult the Safety Data Sheet (SDS).

Technical Assistance:

At BioPioneer, we are committed to providing top-notch technical support and ensuring its accessibility. For any technical assistance, please email us at qc@biopioneer.in.