BND-10 Preservative

Introduction

BND-10 Preservative is a broad-spectrum, efficient, stable, and low-toxicity preservative commonly used in in vitro diagnostic reagents and similar applications.

This preservative effectively inhibits the growth of microorganisms such as bacteria and fungi over extended periods, with particularly strong efficacy against Gram-negative bacteria and very low risk of resistance. The product is a colorless or pale yellow transparent liquid with a characteristic bromine-like odor. Its main component is a 10% solution of bronopol in propylene glycol, and its dual-mode mechanism of action effectively inhibits microbial growth, leading to cell death.

BND-10 is compatible with antibodies and various enzymes, also functions as a surfactant, is easy to rinse off, and contains no secondary amines. It provides excellent preservative effects even in formulations with low protein content, without affecting the activity of common enzymes or antibody binding reactions. It is suitable for a wide range of biochemical and immunological detection reagents.

This product is highly effective, stable, low in toxicity, and environmentally friendly. It acts rapidly, works over a broad pH range (pH 5–8.5), and has good chemical stability. It mixes easily with water, and at diluted concentrations, it is minimally toxic, non-irritating, and non-corrosive. With strong biodegradability and environmental friendliness, it is an ideal alternative to traditional biological preservatives that are flammable, explosive, or highly toxic.

The product is easy to use—simply add at a volume ratio of 0.1–0.5% and mix well to achieve effective antimicrobial activity.

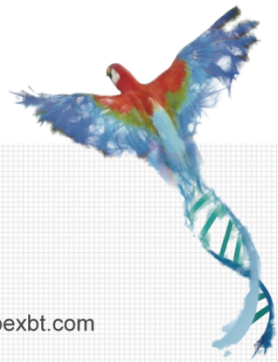
Protocol

1. The applicable pH range for this product is 5–8.5. The recommended usage concentration is 0.1–0.5% (or approximately 1–5 mL/L), corresponding to a 1:200–1,000 dilution.
2. The exact concentration depends on factors such as microbial species, pH, temperature, and required shelf life. It is recommended to determine the optimal dosage experimentally.

Note

1. This product is compatible with most surfactants. However, the presence of substances containing –SH groups (e.g., cysteine) may reduce its antimicrobial activity. Aluminum metal may also reduce its activity.

2. This product is unstable at high temperatures (>40°C) and under alkaline conditions (pH > 9). Under sunlight, its color tends to darken. The recommended pH range for use is 5–8.5.
3. It is recommended to store this product at 20–30°C. During transport or storage, if the temperature falls below 15°C, bronopol may crystallize out. In such cases, warm and stir the product in a 25–40°C water bath until completely dissolved before use. Store at room temperature, protected from light, for up to 3 years.
4. This product is harmful or irritating to humans. Please handle with care and take appropriate protective measures to avoid direct contact with the body or inhalation. Within the recommended usage concentration range, it is safe and non-irritating to humans; however, direct eye contact should be avoided. If eye contact occurs, immediately rinse with plenty of water without delay.
5. This product is corrosive. Please handle with care and ensure effective protection to avoid direct contact with the body, and take care to prevent corrosion of other materials. Toxic or harmful to aquatic life—do not discharge directly into the environment.
6. This product is for scientific use only.



APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com