applied biosystems® by life technologies™

10X Running Buffers, 3730 Series and 310x Series Anode Buffer Container and Cathode Buffer Container, 3500 Series

Green Benefits

- No gel ice
- No Expanded Polystyrene (EPS) or Polyurethane (PU) coolers
- Decreased fuel consumption and greenhouse gas emissions for transport
- Less waste disposal

Introduction

Life Technologies is committed to designing products with the environment in mind. In order to minimize the adverse environmental impact of packaging and shipping products on gel ice, Life Technologies investigated the feasibility of shipping its Capillary Electrophoresis (CE) Running Buffers at ambient temperature.

Functional and analytical testing demonstrates that ambient shipped Running Buffers provide the same quality and stability as buffers shipped on ice. By these actions, we are decreasing packaging and gel ice, which could reduce energy, fuel use, greenhouse gas emissions, and waste at end of packaging life. This fact sheet provides the rationale behind our environmental claims.

Product Description

The 10X Running Buffers are used for electrophoresis on Applied Biosystems® 310, 3100, 3100-Avant™, 3130, 3130xL or 3730 and 3730xL Genetic and DNA Analyzers.

The Anode and Cathode Buffer Containers include 1x Running Buffer to support all electrophoresis applications on the Applied Biosystems 3500 series Genetic Analyzers. It is made in a ready-to-use, disposable container with a radio frequency identification (RFID) tag incorporated into the label.

Green Features

Reduced Packaging

Life Technologies has been systematically evaluating novel ways to minimize the impact of shipping product on gel or gel ice, and the carbon dioxide (CO_2) footprint left by the packaging and distribution

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of these products. One way we can do this is to ship our Capillary Electrophoresis (CE) Running Buffers at a temperature consistent with their demonstrated stability. The adverse environmental impact of shipping product cold is tremendous: from manufacturing coolers to the addition of refrigerants for transport, all contribute to greenhouse gas emissions and global warming potential.

The annual carbon footprint to manufacture the raw materials and convert it into coolers for our CE Running Buffers is approximately 40 tons. It takes nearly 80 barrels of crude oil equivalents and 230 MWh of power annually to make the coolers needed to ship Life Technologies CE Running Buffers.[1]

An average of 18 pounds of gel ice is added to each cooler to ensure the product is delivered cold to our customers, further increasing the mass and dimension of each package. Factoring in the number of shipments and average distance traveled per package and the fact that most packages are shipped via air, the annual total carbon footprint for transporting refrigerated CE Running Buffers is in excess of 3,500 tons (measured as CO_2 emissions).[2]

Less Waste

By "going ambient" for CE Running Buffers, Life Technologies will help our customers divert an annual total of nearly 9,000 kg (70,000 ft^3) of EPS or PU from reaching our landfills and incinerators. This reduces our total carbon footprint from packaging and transport by nearly 3,600 tons per year.

Functional and stability testing demonstrated that CE Running Buffers exposed to simulated ambient shipping conditions performed identically as when shipped on gel ice. Further details can be found at www.lifetechnologies.com/ambientbuffers.

Footnotes

1. Data produced using Compass™ Comparative Packaging Assessment online software tool (v. 1.1) (https://www.design-compass.org/)
2. Reference data derived from U.S. EPA, Climate Leaders, Greenhouse Gas Inventory Protocol Core Module Guidance (*Optional Emissions From Commuting, Business Travel and Product Transport*).

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