

Datasheet Prothermal PLUS

Product Name: Prothermal PLUS
Catalog No.: 2601-PLUS
Category: Advanced Water Protection System
Technology: Silver Catalyst Technology

Product Overview

Prothermal PLUS is a water treatment solution based on catalytic oxidation technology. It effectively prevents biofilm formation, maintains water purity, and supports long-term system cleanliness. The product operates catalytically without releasing substances into the water, making it an environmentally friendly alternative to chemical treatments. Prothermal PLUS is not a biocide and does not function as a disinfectant. Technically, modified group 11 metals are used as oxidation catalyst.

Material Composition

- **Body / Bag:** Polypropylene (PP) mesh (approx. 45 x 60 mm)
- **Supporting Structure:** Fabric Ag-thread with PP support thread (70:30 ratio)
- **Active Ingredients:** 10g AgAlox/Alox mixture (1:1), 2% silver on aluminum oxide

Mode of Action

Prothermal PLUS utilizes **electrochemically mediated repulsive potentials** and **catalytic oxidation** to prevent microbial growth by creating an inhospitable environment. Instead of dosing silver, it inhibits biofilm formation and contamination through a redox-active catalyst surface. Silver-aluminum oxide (AgAlox) catalysts generate reactive oxygen species (ROS) from dissolved oxygen, disrupting bacterial processes and preventing microbial colonization without releasing significant silver into the water. Its high redox potential ensures long-term water system protection, maintaining purity and safety.

Application

Prothermal PLUS is a simple and effective solution for maintaining water cleanliness in various applications. The product requires no installation, is thermally stable and effective across a broad temperature range. Avoid use in boiling systems.

Suitable applications include:

Water tanks, Water baths, Storage containers, Water reservoirs (e.g. Analytical instruments), Incubators, Humidifiers, Humidification systems, Cooling circuits, Open/closed-loop water systems.

Usage recommendation

- **Place the Prothermal PLUS bag directly into the water.** The catalytic system activates immediately, preventing microbial growth and biofilm formation.
- The **attached string** serves only as an option for fixing the bag in place. It has no influence on the performance of Prothermal PLUS and may be removed if not needed.
- **One unit of Prothermal PLUS effectively treats up to 15 liters of water.** For larger volumes, please use multiple units proportionally.
- **Prothermal PLUS provides effectiveness for up to 6 months** under normal usage conditions. After this period, return the unit to Lucerna-Chem AG for regeneration or discard it properly (group 11 metals) and replace it.
- **Water replacement** as recommended by the manufacturer of your system.

Safety & Compliance

Chemical Safety

- No hazardous substances released into the water.
- Complies with TVO, EPA, and WHO silver limits under normal use
- No nano-silver used

Environmental Benefits

- Reduces need for chemical disinfectants.
- Prevents biofilm, reducing maintenance and extending system lifespan.
- No toxic by-products

Microbial Efficacy

- Proven significant reduction in microbial loads

Product Regeneration & Disposal

- After 6 months of use, customers are encouraged to **return Prothermal PLUS units to Lucerna-Chem AG** for reprocessing or proper disposal.
- If return is not feasible, dispose of properly (contains silver and aluminum oxide).