Protecting Your Customers from the Invisible

**Charm Sciences' Integrated Sanitation Monitoring Programs for Quality and Cost-Effective Verification of Cleanliness**

Introduction

There is an increased focus in the food industry on food-safety monitoring. Food manufacturers, processors, packages and handlers must identify safety hazards and adapt process controls to reduce the risk of hazards. Cleaning is a universal process control in food manufacturing. Charm® provides tests that are fast and reliable for cleaning verification, prevention of cross-contamination, and infection control. Charm tests help industries meet third party and process control documentation requirements.

FACT: Whole-Genome Sequencing Traceback
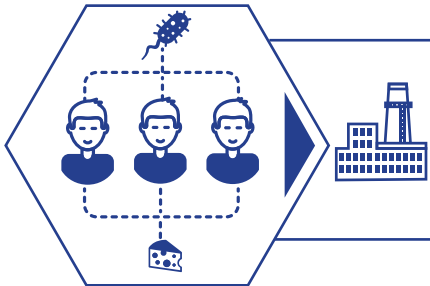
Administrative agencies now have a standard system of identifying foodborne pathogen isolates obtained from foods and environmental samples. Tracebacks have become a common way to relate a foodborne illness to the factories involved.

Integrated Sanitation Tools

Charm Sciences' sanitation monitoring uses ATP and Peel Plate tools for cleaning and microbial control verification. This integrated sanitation pyramid prepares the facility to meet compliance regulations.

Real-time ATP Cleaning Monitoring
- PocketSwab® Plus ATP Swabs
- novaLUM® II-X System
- Data Management

Indicator Organism Solutions:
- Aerobic Count
- Coliform Count
- *E. coli* Count
- Yeast and Mold Count
- Enterobacteriacae Count
- Heterotrophic Count
- Staphylococcus Aureus
- Yeast Only

Pathogens

Indicator Organisms

**ATP Testing**

Visual Inspection
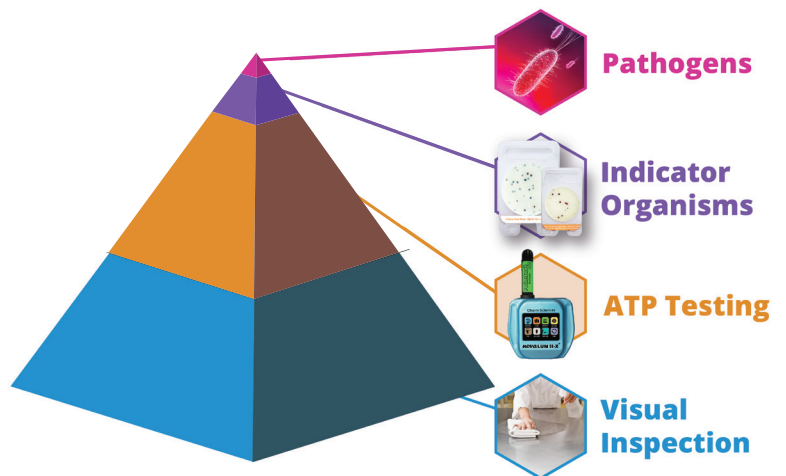
Part 1: ATP Solution

The Charm PocketSwab Plus ATP Swab provides a simple, rapid method for objectively assessing whether a surface is clean. This technique has been used to audit cleaning programs, educate staff, and evaluate cleaning protocols.

Charm novaLUM II-X System
- Is the preferred method to monitor cleaning effectiveness of sanitation programs.
- Utilizes a technology advanced photomultiplier tube, that is more sensitive to ATP presence.
- Allows detection of lower levels of microbial and organic matter contamination.
- WiFi for automated transfer of data.
- Retest to document corrective action.

Clean	ATP	Indicator	Pathogen
Every Production Run	With Every Cleaning	Daily	As Needed
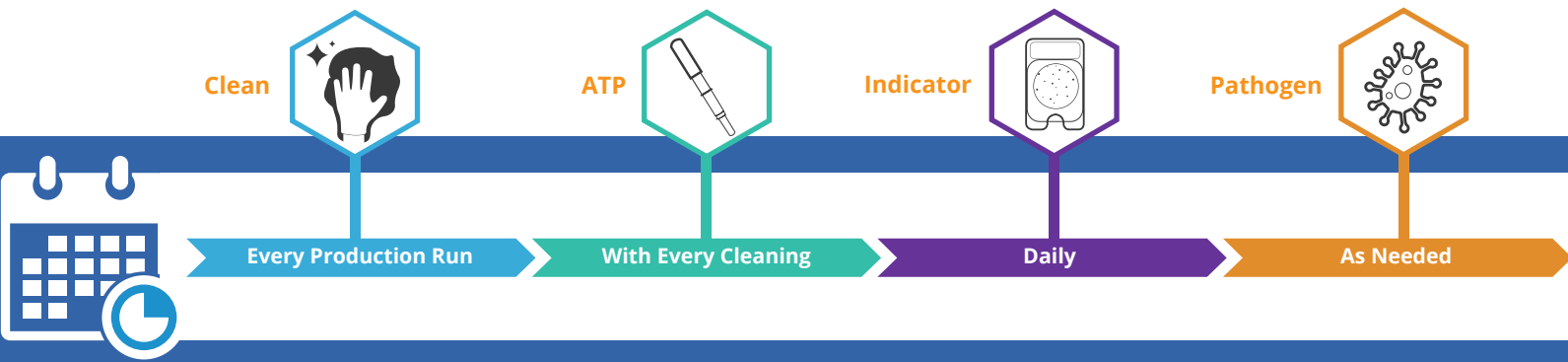
Part 2: Microbial Testing

Indicator organisms are not necessarily correlated to pathogen results, but are a good monitor of microbial control in the facility and provide faster feedback to process deviations than pathogen results.

Peel Plate Microbial Tests along with the Peel Plate Colony Counters provide facility employees with a simple-to-use tool without needing a trained microbiologist. Counters are stand-alone units which reduces the dependency of a separate computer connection. The counters also help with audit requirements, storing images, and data supporting hygienic control throughout the production plant.
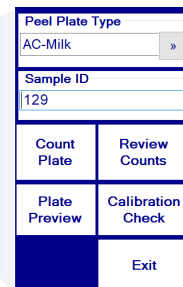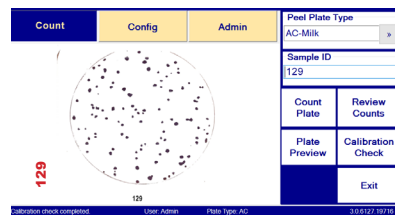
Charm Peel Plate Microbial Test and Colony Counters
- Increases productivity and reduces human error with accuracy within 10% of an experienced microbiologist's visial count
- Detects and quantifies spreader colonies on Peel Plate tests
- Channels are customizable per product type
- Stores images of test results for downloading to LIMS's

Part 2: Microbial Testing Continued

An inclusivity evaluation carried out by Q Laboratory compared the Peel Plate *E.coli*/coliform method to method AOAC 991.14. The results revealed that the Peel Plate EC test detected 57 out of 58 coliform strains while the other method detected only 43 out of 58, proving Charm is 32 % more accurate. The dry film method failed to identify 15 coliform strains because these coliforms did not produce gas in the required time frame.

The Peel Plate method uses two specific enzymes expressed only by coliforms and *E.coli,* removing the need for gas production as a secondary indicator. Coliforms appear as red colonies, and *E. coli* are blue for quick, easy identification.

Gas Bubble

Is it a coliform?

Coliform

E.coli
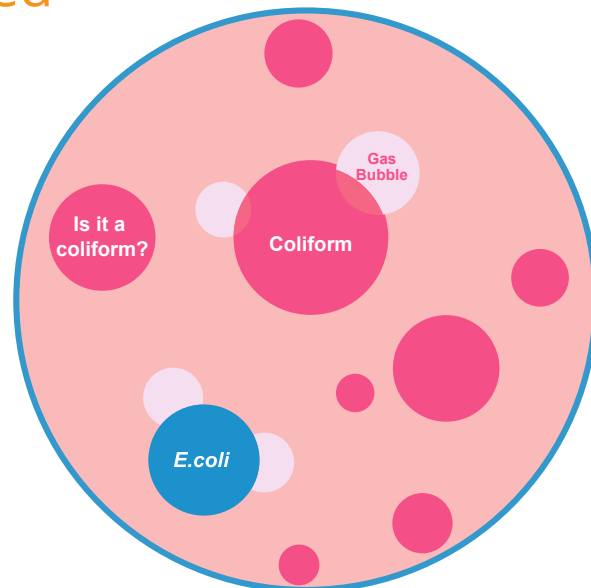
Meet the Peel Plate Family

Peel Plate HET

Peel Plate EB

Peel Plate AC

Peel Plate SA

Peel Plate EC

Peel Plate CC

Peel Plate YM

Peel Plate Y

Charm Peel Plate tests handle a wide variety of microbial inidicator tests. For other industries and commodities, please contact Charm Sciences at **info@charm.com**.

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