



- NON - TOXIC
- NO ALCOHOL
- NO BLEACH
- NO RESIDUE
- NON - CARCINOGENIC
- NON - SCENTED
- NON - CORROSIVE
- 100% BIODEGRADABLE

DESTROYS
99.9%
 Under 30 Secs
 *KILLS COVID-19

- VIRUSES
- BACTERIA
- MOLD
- FUNGUS
- ALGAE



FOOD PROCESS PLANTS FLOUR BASED

Product name: BIOTECplus Total Disinfection

Product class: Disinfectant- Sanitizer

DESCRIPTION - QUATERNARY DISINFECTANT CLEANER is a concentrated, cost-effective germicide based on a blend of quaternaries and surfactants. It cleans, disinfects, and deodorizes with a neutral pH in dilution.

Product Composition and usage

Name	CAS#	TLV/PEL	%weight
N-Alkyl Dimethyl Benzyl Ammonium Chloride	85409-22-9	N/A	1
N-Alkyl Dimethyl Ethyl Benzyl Ammonium Chloride	8001-54-5	N/A	1
Water	7732-18-5	N/A	98

This article identifies the flora of pathogens existing in Food factories, (primarily Flour, sugar-based and meat product), the issues of spoilage and the reference to diverse ways BIOTECplus can alleviate the existing problems

Microbial problems within food process plants can be divided into two groups:

- (1) growth in, and deterioration of, the product by general organisms to produce spoilage;
- (2) growth in, or contamination of, the product by pathogens to produce food poisoning



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Table 1.0 represents the types of pathogens existing at beverage process plants and the associated contamination

Pathogens	Areas of contamination	Causes of contamination
<ul style="list-style-type: none"> ✚ Bacteria ✚ fungus ✚ virus 	<ul style="list-style-type: none"> ✚ Packaging/conveyors ✚ Preprocess storage/mats ✚ PET containers ✚ Decontamination water ✚ Process machinery 	<ul style="list-style-type: none"> ✚ Acid tolerant ✚ Low moisture tolerance ✚ Carbonation tolerant ✚ Preservative tolerant ✚ Inadequate process plant hygiene

BIOTECplus is tested and certified to kill Algae, Yeast, Mold, Bacteria, and Viruses.

BIOTECplus Yeast and Mold/Fungus

BIOTECplus will easily kill the array of yeast organisms in the process environment. The certified biomedical standardized sanitizer can be applied in food storage areas, conveyors, mixers food lines and food contact areas, allowing any area where yeast may have entered, to be thoroughly sanitized.

BIOTECplus will works in under 15 minutes without leaving any scent and will not change the flavor of the food product.

BIOTECplus is engineered for application in any environment where moisture/ humidity may exist making it ideal to combat Molds(fungi) which are very stubborn organisms to kill as they exist anywhere there is moisture/ humidity and are easily transported by wind currents. Molds are also heat resistant and therefore survive thermo regulation at beverage process plants. Our product will not only kill the pathogens existing in these areas but can do so through extreme temperatures (high or low)

BIOTECplus is **Noncorrosive** and is therefore recommended to be applied through all HVAC and ducting systems, where mold would typically enter and flourish. By applying BIOTECplus within these channels, mold can easily be eliminated without any manufacturing equipment being damaged.



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The Nontoxic feature of BIOTECplus allows it to travel through the vents to the main process areas. Keeping in mind that humidity is a recurring factor, BIOTECplus has residual period of 3 to 7 days, and therefore will keep the process area free of harmful pathogens for an extended period. BIOTECplus easily removes molds in minutes. From our yeast/ Fungus testing BIOTECplus is certified to neutralize (Trichophyton interdigitale, candida albicans)

BIOTECplus and Bacteria

BIOTECplus works optimally across a wide temperature and pH rang, it is therefore effective in any environment. BIOTECplus is certified against the most extreme Gram positive/Gram negative bacteria and not only eliminates these pathogens, but in a record disinfection and sanitizing time of 15 minutes and 15 seconds respectively. From our testing are a few of the bacteria that BIOTECplus is certified to neutralize (gram+) Staphylococcus Aureus, (gram-) Escherichia Coli

Staphylococcus Aureus and Listeria monocytogenes are both gram positive bacteria, with Staph. A being the more adaptive/ tolerant pathogen of the two. These pathogens are heavily associated with the food industry and cause severe illnesses in the gut. Staphylococcus aureus has proven to not be adaptive to BIOTECplus, as proven by our tests and as such BIOTECplus easily eradicates Listeria and monocytogenes as well

KEY PATHOGENIC ISSUES

Many microorganisms, including pathogens, can survive drying processes. Once in a dried state, metabolism is greatly reduced, i.e., there is no growth, but vegetative cells and spores may remain viable for several months or even years. They can often persist longer in low moisture foods and in dry food processing environments than in high-moisture foods and wet environments.

It is often difficult or even impossible to eliminate pathogens from foods with low moisture by processes such as application of mild heat treatment (e.g., pasteurization) or high hydrostatic pressure that work very well for high-moisture foods



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Control Measures

Where BIOTECplus fits in with your protocols

Food processing environments, in which dried foods are handled, must be maintained at low humidity, and kept dry, and this can easily be accomplished with **BIOTECplus** which is uniquely engineered to be applied by mist, minimal residue with a dry time under 15minutes.

Control measures include maintaining the cleanliness of equipment with **BIOTECplus**. The control of storage temperature, hot water immersion, chemical sanitizers, surfactants(**BIOTECplus**), surface waxes (particularly on oranges) and UV irradiation

Benefits of BIOTECplus

BIOTECplus is tested safe and effective against extreme pathogens existing in beverage manufacturing facilities. The product allows fast turnovers in each department(max 15 min), taking the place of numerous individual cleaners and thus saving costs to the manufacturer, while not altering the taste of the end product. The NON-toxic, Biodegradable, Biomedically standardized disinfectant and sanitizer is safe for human contact, is non-abrasive, non-corrosive and certified for food contact surfaces.

BIOTECplus is tested at the Microchem laboratory, Texas USA
 ISO 17025 Accredited and GLP Compliant Laboratory
 Microchem maintains compliance with EPA and FDA Good Laboratory Practices
 BIOTECplus is manufactured using EPA certified active ingredients

Study Title	Test Method
Antibacterial Activity and Efficacy of BIOTECplus Test Substance for use in Food Contact Surfaces	Modified AOAC Official Method 960.09 Germicidal and Detergent Sanitizing Action of Disinfectants Study Identification Number
Pseudomonas aeruginosa (bacteria)	NG11206
Staphylococcus aureus (MRSA- bacteria)	NG11206
Escherichia coli (bacteria)	NG11409
Trichophyton interdigitale (fungus)	NG11332
Human Coronavirus, Strain	ASTM E1053, Standard Test Method to Assess Virucidal Activity of Chemicals Study Identification Number NG14878



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Test Facility

Microchem Laboratory
1304 W. Industrial Blvd
Round Rock, TX 78681
(512) 310-8378

***See MSDS and certificates for verification**

Microchem maintains ISO 17025 accreditation through ANSI National Accreditation Board (ANAB). Accreditation provides our clients with additional confidence in the laboratory's quality system and technical competence. In addition to ISO 17025 accreditation, Microchem maintains compliance with EPA and FDA Good laboratory practices (GLPs)

Microchem's current scope of accreditation includes the following standards

- AAMI TIR12- Disinfection Validation- designing, Testing and Labelling Reusable Medical Devices for Reprocessing in Healthcare Facilities: A Guide for Medical device Manufacturers.
- AAMI TIR30- Cleaning Validation- A compendium of processes, materials, test methods, and Acceptance Criteria for Cleaning Reusable Medical Devices
- ISO 11930- Evaluation of the Antimicrobial Protection (Preservation) of Cosmetic Products

This article was created by the manufacturer's YBMS Biotec Ltd. in conjunction with tests carried out using BIOTECplus against respective pathogens existing in the food process industry.

www.ybmsbiotec.com



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