



- **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



BEVERAGE PROCESS PLANTS

FRUIT & SOFT DRINK

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 Beverage factories, (primarily soft drink and juice), the issues of spoilage and the reference to diverse ways BIOTECplus can alleviate the existing problems

Microbial problems within soft drinks and fruit juices 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"> ✚ Yeast ✚ Mold ✚ Bacteria 	<ul style="list-style-type: none"> ✚ Filling lines/conveyors ✚ Packaging/conveyors ✚ Preprocess storage/mats ✚ PET containers ✚ Decontamination water ✚ Process machinery 	<ul style="list-style-type: none"> ✚ Acid tolerant ✚ Thermo tolerant ✚ Carbonation tolerant ✚ Preservative tolerant- Osmo tolerance ✚ Inadequate process plant hygiene

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

Yeasts are the most significant group of micro-organisms associated with spoilage of soft drinks and fruit juices

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)



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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. 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 eliminate *Trichophyton interdigitale* and *Candida albicans*

BIOTECplus and Bacteria

BIOTECplus works optimally across a wide temperature and pH range it is therefore effective in any environment. BIOTECplus is certified against the most extreme gram negative/positive bacteria and not only eliminates these pathogens but in record disinfection and sanitizing time of 15 minutes and 15 seconds, respectively. Our tests show how BIOTECplus is certified to eliminate (gram+) *Staphylococcus aureus*, (gram-) *Escherichia coli*, as part of its diverse range for Bacterial application

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, as such BIOTECplus is capable of eradicating *Listeria monocytogenes*

Control Measures

Where BIOTECplus fits in with your protocols

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



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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.

This product 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 Staphylococcus aureus Escherichia coli	Modified AOAC Official Method 960.09 Germicidal and Detergent Sanitizing Action of Disinfectants Study Identification Number NG11409
Human Coronavirus	ASTM E1053, Standard Test Method to Assess Virucidal Activity of Chemicals Study Identification Number NG14878

Test Facility

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

*See MSDS and certificates for verification



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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 fruit and soft drink Beverage industry.

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