

TECHNICAL BULLETIN

PURELL® Sanitizing Wipes

Technical Data

INDICATIONS: Hand sanitizer to help reduce bacteria on the skin.

DIRECTIONS: Wet hands thoroughly with product and allow to dry • Children under 6 years of age should be supervised when using PURELL

Physical Properties

Active Ingredient **Benzalkonium Chloride 0.13%**

Appearance: **Colorless to slightly yellow liquid on towelette**

Fragrance: **Lemon**

Form: **Liquid in impregnated towelette**

pH: **5.5-8.5**

Ingredients

INCI Name*	Ingredient Class
Active:	
Benzalkonium Chloride 0.13%	Antimicrobial Agent
Also Contains:	
Water (Aqua)	Carrier
Decyl Glucoside	Surfactant, Cleansing Agent
Glycerin	Skin Conditioning Agent, Humectant
Fragrance (Parfum)	Fragrance
Methylparaben	Preservative
Phenoxyethanol	Preservative
Propylparaben	Preservative

*International Nomenclature Cosmetic Ingredient

Efficacy Data – *In Vitro*

Timed – Exposure Kill Evaluation

Objective: Evaluate the antimicrobial effectiveness of the product *in vitro*.

Description of Test: Fifteen (15) and thirty (30) second exposure kill evaluations were performed utilizing challenge bacterial strains. The

challenge inoculum was introduced to the test product at time zero; a portion of the sample was removed and placed in neutralizing media at the appropriate time (15 or 30 seconds). Standard plate counting techniques were used to enumerate viable challenge microorganisms.

Independent Laboratory: BioScience Laboratories, Inc., Bozeman, MT

Date: 2 September 2010

Results:

Microorganism	ATCC No.	Percent Reduction (15 seconds)
<i>Acinetobacter baumannii</i>	19606	99.9999
<i>Bacillus megaterium (vegetative cells)</i>	14581	99.9990
<i>Bacteroides fragilis</i>	25285	99.9999
<i>Burkholderia Cepacia</i>	25416	99.9999
<i>Campylobacter jejuni</i>	29428	99.9999
<i>Citrobacter freundii</i>	8090	99.9999
<i>Clostridium difficile (vegetative cells)</i>	9689	99.9998
<i>Clostridium perfringens (vegetative cells)</i>	13124	99.5924
<i>Corynebacterium diphtheriae</i>	11913	99.9128
<i>Enterobacter aerogenes</i>	13048	99.9999
<i>Enterococcus faecalis</i> MDR; VRE	51559	99.9999
<i>Enterococcus faecalis</i>	29212	99.9999
<i>Escherichia coli</i>	11229	99.9999
<i>Escherichia coli</i>	25922	99.9999
<i>Escherichia coli</i> (serotype 0157:H7)	43888	99.9999
<i>Escherichia coli</i> MDR; ESBL	BAA-196	99.9999
<i>Haemophilus influenza</i> MDR	33930	99.9999
<i>Klebsiella pneumoniae ozaenae</i>	11296	99.9999
<i>Klebsiella pneumoniae pneumoniae</i>	13883	99.9999
<i>Lactobacillus plantarum</i>	14917	99.9999
<i>Listeria monocytogenes</i>	7644	99.9999
<i>Micrococcus luteus</i>	7468	99.9997
<i>Neisseria meningitidis</i>	13077	99.9932
<i>Proteus hauseri</i>	13315	99.9999
<i>Proteus mirabilis</i>	7002	99.9999
<i>Pseudomonas aeruginosa</i>	15442	99.9999
<i>Pseudomonas aeruginosa</i>	27853	99.9999
<i>Salmonella enterica</i> serovar Enteritidis	13076	99.9978
<i>Serratia marcescens</i>	14756	99.9999
<i>Shigella dysenteriae</i>	13313	99.9999

<i>Shigella sonnei</i>	11060	99.9999
<i>Staphylococcus aureus</i>	6538	99.9999
<i>Staphylococcus aureus</i>	29213	99.9999
<i>Staphylococcus aureus</i> MRSA	33591	99.9999
<i>Staphylococcus aureus</i> MRSA; GRSA	33593	99.9999
<i>Staphylococcus epidermidis</i>	12228	99.9998
<i>Staphylococcus haemolyticus</i>	43253	99.9919
<i>Staphylococcus hominis</i>	27845	99.9998
<i>Staphylococcus saprophyticus</i>	49453	99.9999
<i>Streptococcus pneumoniae</i>	33400	99.9998
<i>Streptococcus pyogenes</i>	19615	99.9999

Yeasts and Fungi	ATCC No.	Percent Reduction
<i>Candida albicans</i>	14053	99.9995
<i>Candida tropicalis</i>	13803	99.9999

Irritancy Data and Allergy Test Results

21 Day Cumulative Irritancy Assay with Delayed Challenge

Objective: To determine 1) the relative cumulative irritation potential following repetitive applications to the skin of normal, healthy human volunteers and 2) the potential to induce contact sensitization.

Description of Test: The 21-Day Cumulative Irritation procedure is a predictive test for comparing the irritation potential of mild to moderately irritating topically applied skin care products. The procedure involves applications of occlusive patches to human skin over a 21-day period. Each patch is worn for 24 hours (48 hours over the weekend), removed by testing facility personnel and the areas scored by a trained evaluator.

A challenge procedure is also performed in order to determine the sensitization potential of the test article. Each test article is patched at a naïve site 10-14 days following the Cumulative Irritation procedure. The patches are worn for 48 hours and the areas evaluated 48

Independent Laboratory: and 96 hours following patch application.
Date: RCTS, Inc.
Irving, TX

Results: Average Score = 1.95 (scale 0 – 4);
No sensitization occurred

Conclusions: Cumulative Irritation: Possibly Mild in Use
Challenge Phase: Non-sensitizing