



CHEMGENE

Microbiological Testing Summary

BACTERICIDAL ACTIVITY

EN 1276 - Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas – Test method and requirements (phase 2, step 1)

Standard test organisms

Pseudomonas aeruginosa, Escherichia coli, Staphylococcus aureus, Enterococcus hirae

Test conditions

Clean conditions (0.3g/l bovine albumin) - Dirty conditions (3.0g/l bovine albumin)

Industry specific (must also pass under standard dirty conditions)

Obligatory Log reduction ≥ 5 in 5 minutes at 20°C

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
<i>Acinetobacter calcoaceticus</i>	ABBOTT ANALYTICAL	1:30	EN1276 Dirty	> LOG 5
<i>Enterococcus hirae</i>	ABBOTT ANALYTICAL	1:100	EN1276 Dirty	> LOG 5
<i>Enterococcus hirae</i>	BLUTEST	1:100	EN1276 Dirty	> LOG 5
<i>Escherichia coli</i>	ABBOTT ANALYTICAL	1:100	EN1276 Dirty	> LOG 5
<i>Escherichia coli</i>	BLUTEST	1:100	EN1276 Dirty	> LOG 5
<i>Listeria monocytogenes</i>	ABBOTT ANALYTICAL	1:100	EN1276 Dirty	> LOG 5
Methicillin -resistant <i>Staphylococcus aureus</i>	ABBOTT ANALYTICAL	1:100	EN1276 Dirty	> LOG 5
Methicillin-resistant <i>Staphylococcus pseudintermedius</i>	ABBOTT ANALYTICAL	1:100	EN1276 Dirty	> LOG 5
<i>Pseudomonas aeruginosa</i>	ABBOTT ANALYTICAL	1:100	EN1276 Dirty	> LOG 5
<i>Pseudomonas aeruginosa</i>	BLUTEST	1:100	EN1276 Dirty	> LOG 5
<i>Salmonella tryphimurium</i>	ABBOTT ANALYTICAL	1:100	EN1276 Dirty	> LOG 5
<i>Staphylococcus aureus</i>	ABBOTT ANALYTICAL	1:100	EN1276 Dirty	> LOG 5
<i>Staphylococcus aureus</i>	BLUTEST	1:100	EN1276 Dirty	> LOG 5
<i>Streptococcus equi</i>	ABBOTT ANALYTICAL	1:100	EN1276 Dirty	> LOG 5

EN 13697 - Chemical disinfectants and antiseptics – Quantitative non-porous surface test for the evaluation of bactericidal and/or fungicidal activity of chemical disinfectants used in food, industrial, domestic and institutional areas – Test method and requirements without mechanical action (phase 2, step 2)

Standard test organisms

BACTERIA - *Pseudomonas aeruginosa, Escherichia coli, Staphylococcus aureus, Enterococcus hirae*

FUNGI - *Aspergillus niger, Candida albicans*

Test conditions

Clean conditions (0.3g/l bovine albumin)- Dirty conditions (3.0g/l bovine albumin)

Industry specific (must also pass under standard dirty conditions)

Obligatory

Bacteria - Log reduction ≥ 4 in 5 minutes at 20°C, FUNGI Log reduction ≥ 3 in 15 minutes at 20°C

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
<i>Enterococcus hirae</i>	BLUTEST	1:100	EN13697 Dirty	> LOG 5
<i>Escherichia coli</i>	BLUTEST	1:100	EN13697 Dirty	> LOG 5
<i>Pseudomonas aeruginosa</i>	BLUTEST	1:100	EN13697 Dirty	> LOG 5
<i>Staphylococcus aureus</i>	BLUTEST	1:100	EN13697 Dirty	> LOG 5





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BACTERICIDAL ACTIVITY (cont.)

EN 1656 - Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics used in the veterinary area – Test method and requirements (phase 2, step 1)

Standard test organisms

Pseudomonas aeruginosa, Proteus vulgaris, Staphylococcus aureus, Enterococcus hirae

Test conditions

Low-level soiling (3g/l bovine albumin) - High-level soiling (10g/l bovine albumin + 10g/l yeast extract)

Obligatory Log reduction ≥ 5 in 30 minutes at 10°C

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
<i>Bordetella bronchiseptica</i>	ABBOTT ANALYTICAL	1:100	EN1656 Dirty	> LOG 5
<i>Campylobacter jejuni</i>	ABBOTT ANALYTICAL	1:100	EN1656 Dirty	> LOG 5
Methicillin-resistant <i>Staphylococcus pseudintermedius</i>	ABBOTT ANALYTICAL	1:100	EN1656 Dirty	> LOG 5
<i>Rhodococcus equi</i>	ABBOTT ANALYTICAL	1:100	EN1656 Dirty	> LOG 5
<i>Streptococcus equi</i>	ABBOTT ANALYTICAL	1:100	EN1656 Dirty	> LOG 5

EN 13623, Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of bactericidal activity against *Legionella pneumophila* of chemical disinfectants for aqueous systems – Test method and requirements (phase 2, step 1)

Obligatory Log reduction ≥ 5 in 60 minutes at 30°C

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
<i>Legionella pneumophila</i>	ABBOTT ANALYTICAL	1:100	EN13623	> LOG 5

HLD4 formulation has also been tested under EN1275 and EN1040

EN 1040 - Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of basic bactericidal activity of chemical disinfectants and antiseptics – Test method and requirements (phase 1)

Standard test organisms

Pseudomonas aeruginosa, Staphylococcus aureus

Obligatory Lg reduction ≥ 5 in 5 minutes at 20°C

EN 1275 - Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of basic fungicidal or basic yeasticidal activity of chemical disinfectants and antiseptics – Test method and requirements (phase 1)

Standard test organisms

Aspergillus niger, Candida albicans

Obligatory Lg reduction ≥ 4 in 15 minutes at 20°C





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VIRUCIDAL ACTIVITY

BS EN 14476:2005 - Chemical disinfectants and antiseptics. Virucidal quantitative suspension test for chemical disinfectants and antiseptics used in human medicine. Test method and requirements (phase 2, step 1)

Standard test organisms

Adenovirus and Poliovirus

Obligatory Lg reduction ≥ 4 (Requirements may vary by claim)

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
Adenovirus	BLUTEST	1:100	EN14476 DIRTY	LOG 3.67
Canine Parvovirus (CPV2)	BLUTEST	1:100	EN14476 CLEAN	> LOG 4
Canine Parvovirus (CPV2)	BLUTEST	1:50	EN14476 DIRTY	> LOG 4
Feline Infectious Peritonitis	ATS	1:50	EPA DIRTY	> LOG 4
Hepatitis B	ATS LABS	1:50	EN14476 CLEAN	LOG 4.67
Herpes Simplex	BLUTEST	1:50	EN14476 DIRTY	LOG 4.16
Human Immunodeficiency Virus	BLUTEST	1:50	EN14476 DIRTY	LOG 4.50
Norovirus (Feline Calicivirus)	BLUTEST	1:50	EN14476 DIRTY	LOG 4.00

SPORICIDAL ACTIVITY

EN 14347 - Chemical disinfectants and antiseptics – Basic sporicidal activity – Test method and requirements (phase 1)

Standard test organisms

Bacillus subtilis, *Bacillus cereus*

Obligatory Lg reduction ≥ 3 in 60 minutes at 20°C

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
<i>Bacillus cereus</i>	ABBOTT ANALYTICAL	1:50 (10 deg C)	EN14347	LOG 3.18
<i>Bacillus subtilis</i>	ABBOTT ANALYTICAL	1:50 (10 deg C)	EN14347	LOG 3.17

EN 13704 - Chemical disinfectants – Quantitative suspension test for the evaluation of sporicidal activity of chemical disinfectants used in human medicine, veterinary field, and food, industrial, domestic and institutional areas – Test method and requirements (phase 2, step 1)

Standard test organisms

Bacillus subtilis, *Bacillus cereus*

Test conditions

Clean conditions (0.3g/l bovine albumin)- Dirty conditions (3.0g/l bovine albumin + 3.0ml/l sheep erythrocytes)

Obligatory Lg reduction ≥ 3 in 60 minutes at 20°C

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
<i>Clostridium difficile</i>	ABBOTT ANALYTICAL	1:10 (10 deg C)	EN13704 DIRTY	> LOG 3





Microbiological Testing Summary

MYCOBACTERICIDAL ACTIVITY
<p>EN 14204 - Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of mycobactericidal activity of chemical disinfectants and antiseptics used in the veterinary area – Test method and requirements (phase 2, step 1)</p> <p>Standard test organisms <i>Mycobacterium avium</i></p> <p>Test conditions Low-level soiling (3g/l bovine albumin)- High-level soiling (10g/l bovine albumin + 10g/l yeast extract)</p> <p>Obligatory Lg reduction ≥ 4 in 60 minutes at 10°C</p>

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
<i>Mycobacterium avium</i>	ABBOTT ANALYTICAL	1:50	EN14204 DIRTY	> LOG 4
<i>Mycobacterium bovis</i>	ABBOTT ANALYTICAL	1:50	EN14204 DIRTY	> LOG 4
<i>Mycobacterium terrae</i>	ABBOTT ANALYTICAL	1:50	EN14204 DIRTY	> LOG 4

<p>EN 14348 - Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of mycobactericidal activity of chemical disinfectants in the medical area including instrument disinfectants – Test method and requirements (phase 2, step 1)</p> <p>Standard test organisms <i>Mycobacterium avium, Mycobacterium terrae</i></p> <p>Test conditions Clean conditions (0.3g/l bovine albumin)- Dirty conditions (3.0g/l bovine albumin + 3.0ml/l sheep erythrocytes)</p> <p>Obligatory Lg reduction ≥ 4 in 60 minutes at 20°C</p>

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
<i>Mycobacterium avium</i>	CHEMILA	1:20	EN14348 CLEAN	> LOG 4
<i>Mycobacterium avium</i>	CHEMILA	1:20	EN14348 DIRTY	> LOG 4
<i>Mycobacterium terrae</i>	CHEMILA	1:20	EN14348 CLEAN	> LOG 4
<i>Mycobacterium terrae</i>	CHEMILA	1:20	EN14348 DIRTY	> LOG 4

FUNGICIDAL ACTIVITY
<p>EN 1650 - Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of fungicidal or yeasticidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas – Test method and requirements (phase 2, step 1)</p> <p>Standard test organisms <i>Aspergillus niger, Candida albicans</i></p> <p>Test conditions Clean conditions (0.3g/l bovine albumin)- Dirty conditions (3.0g/l bovine albumin) Industry specific (must also pass under standard dirty conditions)</p> <p>Obligatory Lg reduction ≥ 4 in 15 minutes at 20°C</p>

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
<i>Aspergillus niger</i>	ABBOTT ANALYTICAL	1:100 (10 deg C)	EN1650 DIRTY	> LOG 4
<i>Candida albicans</i>	ABBOTT ANALYTICAL	1:100 (10 deg C)	EN1650 DIRTY	> LOG 4





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FUNGICIDAL ACTIVITY (cont.)

EN 13697 - Chemical disinfectants and antiseptics – Quantitative non-porous surface test for the evaluation of bactericidal and/or fungicidal activity of chemical disinfectants used in food, industrial, domestic and institutional areas – Test method and requirements without mechanical action (phase 2, step 2)

Standard test organisms

Aspergillus niger, *Candida albicans*

Test conditions

Clean conditions (0.3g/l bovine albumin) - Dirty conditions (3.0g/l bovine albumin)

Industry specific (must also pass under standard dirty conditions)

Fungicidal/Yeasticidal

Obligatory Lg reduction ≥ 3 in 15 minutes at 20°C

ORGANISM	LABORATORY	DILUTION	METHOD	RESULTS
<i>Candida albicans</i>	BLUTEST	1:50	EN13697 DIRTY	> LOG 4
<i>Candida albicans</i>	BLUTEST	1:100	EN13697 DIRTY	> LOG 4

DNA / RNA

HLD4 formulation is proven to denature / precipitate DNA / RNA immediately at dilutions of 1:20 or 1:50 according to Cambridge University Technical Services

*“Further to your query regarding the efficacy of Medimark Scientific Limited’s product HLD4, CUTS can report that at dilutions of HLD4 less than 1:100 (v/v)—1:20 or 1:50 for example—nucleic acids are precipitated immediately. For such dilutions (less than or equal to 1:100), the contact time for immersed solutions should be a few minutes at maximum. The product was **not** tested in aerosol form. However, it is likely that if the concentrations of HLD4 in an aerosol formulation is similar and the active ingredients are stable that it would behave similarly.”*



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