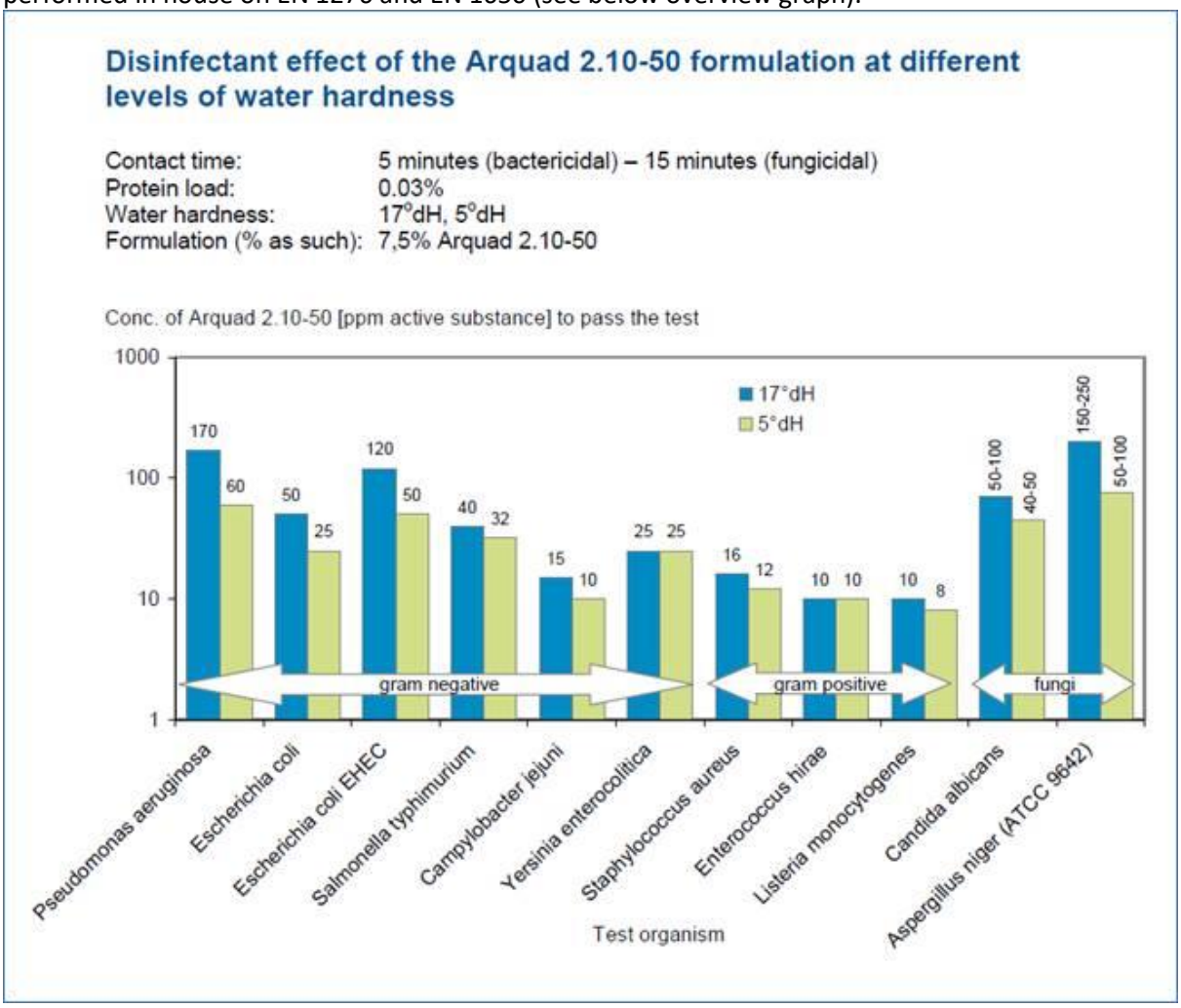
- Triameen Y12D:
I recommend using the most recent test results which are available on our guideline formulation with GLDA as summarized in the enclosed technical bulletin (EN 1276 bactericidal, EN 1650 yeasticidal, EN 13697 bactericidal and yeasticidal).
Virucidal efficacy tests according to EN 14476 we have currently only available for H1N1 influenza virus (statement enclosed, clean conditions) but hope having soon results vs enveloped viruses incl. bovine Corona virus (expected in June).

Arquad MCB-50:
- EN 13697 (surface test without mechanical action): passed at 0,2% BKC=0,4% Arquad MCB-50 (clean conditions)
- EN 1276 (suspension test, bactericidal efficacy): passed at 0,02% BKC = 0,04% Arquad MCB-50) at clean conditions
- EN 1650 (suspensiton test; yeasticidal=Candida albicans): passed at 0,02% BKC = 0,04% Arquad MCB-50 at clean conditions
- EN16615 (surface test with mechanical action employing wipes; bactericidal and yeasticidal efficacy): passed at 0,005% BKC = 0,01% Arquad MCB-50 at clean conditions
- EN 14476 (virucidal efficacy): we have currently only results for H1N1 influenza virus (statement enclosed, clean conditions) but hope having soon results vs enveloped viruses incl. bovine Corona virus (expected in June).

Arquad 2.10-50: Here do not have recent results available performed in external labs, only plenty of older results performed in house on EN 1276 and EN 1650 (see below overview graph).



- EN 14476 (virucidal efficacy): we have currently only results for H1N1 influenza virus (statement enclosed, clean conditions) but hope having soon results vs enveloped viruses incl. bovine Corona virus (expected in June).

Please note that we do not have test results available on EN1500, EN1499 and EN16777.

Best regards,

Renate

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Guideline formulation with GLDA for surface disinfection

Triameen Y12D-30

Guideline formulation with GLDA for surface disinfection

Nouryon is a leading producer of fatty amine based products. Triameen Y12D-30 represents a highly effective biocidal amine with broad spectrum microbiological properties. It is an aqueous dilution containing about 30% of N-(3-aminopropyl)-N-dodecylpropane-1,3- diamine (as “diamine”, CAS 2372-82-9 in the review program of the

Biocidal Product Regulation for disinfectant product types 2, 3, 4). It does not have an ionic charge like the quaternary ammonium compounds.

Phys-Chem Properties	As such	1:50 dilution*	1:75 dilution*	1:200 dilution*
Appearance at 20°C	clear liquid	clear liquid	clear liquid	clear liquid
Cloud point	55°C	>75°C	>75°C	>75°C
Density	1.02 g/cm	1.00 g/cm	1.00 g/cm	1.00 g/cm
pH	12.0	10.1	9.9	9.4
Foam height**				
immediately	157 mm	140 mm	128 mm	
after 1 min	152 mm	138 mm	125 mm	
after 5 min	145 mm	136 mm	121 mm	
Surface Tension (Du Noüy)	31.0 mN/m	30.5 mN/m	30.6 mN/m	30.2 mN/m
CMC		17 mg/l		

Nouryon also produces a wide array of chelating agents. Chelating agents are known to boost the efficacy of biocidal formulations by extracting metal ions from cell membranes of microorganisms and so making them more vulnerable for biocidal attack. One of the best chelates to use for this purpose is GLDA (CAS 51981-21-6), a chelating agent with superior environmental and (eco)toxicological properties and sold under the name Dissolvine® GL-47-S.
This guideline formulation combines the outstanding properties of both products: 10% Triameen Y12D-30
8% Dissolvine® GL-47-S
82% water
All data refer to this formulation

EN 13697

(Surface test for bactericidal efficacy)
Test strains: Escherichia coli, Staphylococcus aureus, Enterococcus hirae, Pseudomonas aeruginosa;
Clean conditions: 0.3 g/l Albumin for all:
Test passed at 1.5% (= 1: 67 dilution)
Clean conditions 8.5 g/l Skim milk for Pseudomonas aeruginosa:
Test passed at 2.0% (= 1:50 dilution

EN 13697

(Surface test for yeasticidal efficacy) Test strains: Candida albicans; Clean conditions: 0.3 g/l Albumin:
Test passed at 1.5% in 5 and 15 minutes

EN 1276

(Suspension test for bactericidal efficacy) Test strains: Escherichia coli, Staphylococcus aureus, Enterococcus hirae, Pseudomonas aeruginosa;
Clean conditions (0.3 g/l Albumin):
Test passed at 0.4% (= 1:250 dilution

EN 1650

(Suspension test for yeasticidal efficacy) Test strain: Candida albicans;
Clean conditions (0.3 g/l Albumin):
Test passed at 0.3% (= 1:333 dilution)

Specifically suitable for disinfection of food contact surfaces

- usual concentrations are safe regarding indirect food contact
- on the “French positive list”
- no MRL (Maximum Residue Limit)

Statement

Efficacy of ARQUAD® MCB-50 versus influenza virus H1N1 (Swine Flu, Mexican flu)

The efficacy of ARQUAD® MCB-50 was tested in a suspension test following to the European standard
DIN EN 14476:2005-08 under clean conditions (0,03% BSA).
ARQUAD® MCB-50 was tested as a 750 ppm, 500 ppm, and 250 ppm solution.
The exposure times were 1 min, 5 min, 10 min and 15 min.
Conclusion: 750 ppm concentration of ARQUAD® MCB-50 (is 375 ppm active substance) is effective against influenza virus A/H1N1/X-179A at room temperature under clean conditions within an application time of 10 minutes.

Statement

Efficacy of ARQUAD® 2.10-50 versus influenza virus H1N1 (Swine Flu, Mexican flu)

The efficacy of ARQUAD® 2.10-50 was tested in a suspension test following to the European standard DIN EN 14476:2005-08 under clean conditions (0,03% BSA).
ARQUAD® 2.10-50 was tested as a 250 ppm, 125 ppm, and 62.5 ppm solution.
The exposure times were 1 min, 5 min, 10 min and 15 min.
Conclusion: 250 ppm concentration of ARQUAD® 2.10-50 (= 125 ppm active substance) is effective against influenza virus A/H1N1/X-179A at room temperature under clean conditions within an application time of 5 minutes.

Statement

Efficacy of TRIAMEEN® Y12D versus influenza virus H1N1 (Swine Flu, Mexican flu)

The efficacy of TRIAMEEN® Y12D was tested in a suspension test following to the European standard DIN EN 14476:2005-08 under clean conditions (0,03% BSA).
TRIAMEEN® Y12D was tested as at 300 ppm, 225 ppm, and 150 ppm solution.
The exposure times were 1 min, 5 min, 10 min and 15 min.
Conclusion: 300 ppm concentration of TRIAMEEN® Y12D (is 300 ppm active substance) is effective against influenza virus A/H1N1/X-179A at room temperature under clean conditions within an application time of 10 minutes.