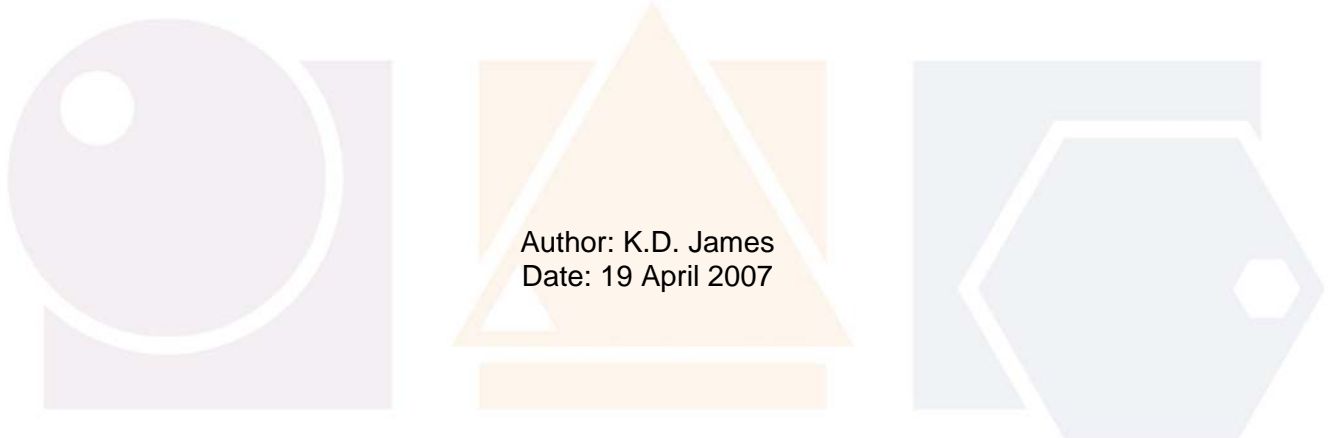




Testing of Clinell Universal Sanitising Wipes on a variety of materials

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Order No. Allen Hanouka



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Date: 19 April 2007

Quality System Approved to ISO 9001:2000

AJA Registrars Reg No 059-A Certificate Number AJA05/8373



Introduction

JCS Technology received some Clinell Universal Sanitising Wipes from GAMA Healthcare Ltd for Simulation of one wipe per day for 3 years.

Date received: 20 February 2007

Quotation number: Q072004 and Q072018

Sample Identification:

Material Samples were given a unique reference number of the following format.
12208/1

| | |
|-------|--|
| 12208 | JCS Technology project and Report number |
| 1 | Individual indication of material samples |
| | 1) <u>Rubbers</u> :- Latex |
| | 2) <u>Rubbers</u> :- Viscoelastic |
| | 3) <u>Rubbers</u> :- Acrylic rubber |
| | 4) <u>Rubbers</u> :- Polyurethane rubber |
| | 5) <u>Rubbers</u> :- Natural rubber |
| | 6) <u>Plastics</u> :- Polyvinyl chloride (PVC) |
| | 7) <u>Plastics</u> :- Polyurethane |
| | 8) <u>Plastics</u> :- Polyethylene |
| | 9) <u>Plastics</u> :- Polypropylene |
| | 10) <u>Plastics</u> :- Polycarbonate |

Customer Reference: Clinell Universal Sanitising Wipes

Results contained within this report relate only to the samples submitted by the client and items tested

| | |
|-----------|--|
| Brief | To simulate one wipe per day for 3 years (3 x 365 = 1095 wipes) |
| Protocol: | To simulate wipe over 1095 cycles. Tests conducted at JCST indicated that the force applied to a flat surface in a reasonable aggressive rub would be approximately 1.8kg or 18Newtons. Using a simulated hand (i.e. a paddle) we attached the wipe to the hand. Using the loaded hand we wipe the surfaces of the materials once every 10 minutes. One wipe would be one cycle. All tests to be conducted at room temperature |

Total time : at 48 per day the test would take approx 23 days

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Testing of Clinell Universal Sanitising Wipes on a variety of materials.

Sample Description : Clinell Universal Sanitising Wipes
 Date of Test : 20 February to 26 March 2007
 Conditioning : None
 Test Environment : Room temperature

Number of wipes per material

| Date | Days | No Days | No Wipes | Date | Days | No Days | No Wipes |
|----------|----------|---------|----------|----------|----------|---------|----------|
| 20/02/07 | | 1 | 48 | 10/03/07 | Saturday | | |
| 21/02/07 | | 2 | 96 | 11/03/07 | Sunday | | |
| 22/02/07 | | 3 | 144 | 12/03/07 | | 15 | 720 |
| 23/02/07 | | 4 | 192 | 13/03/07 | | 16 | 768 |
| 24/02/07 | Saturday | | | 14/03/07 | | | |
| 25/02/07 | Sunday | | | 15/03/07 | | | |
| 26/02/07 | | 5 | 240 | 16/03/07 | | 17 | 816 |
| 27/02/07 | | 6 | 288 | 17/03/07 | Saturday | | |
| 28/02/07 | | 7 | 336 | 18/03/07 | Sunday | | |
| 01/03/07 | | 8 | 384 | 19/03/07 | | 18 | 864 |
| 02/03/07 | | 9 | 432 | 20/03/07 | | 19 | 912 |
| 03/03/07 | Saturday | | | 21/03/07 | | 20 | 960 |
| 04/03/07 | Sunday | | | 22/03/07 | | 21 | 1008 |
| 05/03/07 | | 10 | 480 | 23/03/07 | | 22 | 1056 |
| 06/03/07 | | 11 | 528 | 24/03/07 | Saturday | | |
| 07/03/07 | | 12 | 576 | 25/03/07 | Sunday | | |
| 08/03/07 | | 13 | 624 | 26/03/07 | | 23 | 1095 |
| 09/03/07 | | 14 | 672 | 27/03/07 | | | |

Note: 14/03/07 and 15/03/07 no testing due to burst water pipe

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RESULTS

JCST Ref Material Ref Visual Examination (unaided) of material on completion

| | | |
|----------|---|---------------------------|
| 12208/1 | <u>Rubbers</u> :- Latex | No obvious visible change |
| 12208/2 | <u>Rubbers</u> :- Viscoelastic | No obvious visible change |
| 12208/3 | <u>Rubbers</u> :- Acrylic rubber | No obvious visible change |
| 12208/4 | <u>Rubbers</u> :- Polyurethane rubber | No obvious visible change |
| 12208/5 | <u>Rubbers</u> :- Natural rubber | No obvious visible change |
| 12208/6 | <u>Plastics</u> :- Polyvinyl chloride (PVC) | No obvious visible change |
| 12208/7 | <u>Plastics</u> :- Polyurethane | No obvious visible change |
| 12208/8 | <u>Plastics</u> :- Polyethylene | No obvious visible change |
| 12208/9 | <u>Plastics</u> :- Polypropylene | No obvious visible change |
| 12208/10 | <u>Plastics</u> :- Polycarbonate | No obvious visible change |

Materials

| | | |
|----------|---|--------------|
| 12208/1 | <u>Rubbers</u> :- Latex | Sheet- glove |
| 12208/2 | <u>Rubbers</u> :- Viscoelastic | Sheet |
| 12208/3 | <u>Rubbers</u> :- Acrylic rubber | Sheet |
| 12208/4 | <u>Rubbers</u> :- Polyurethane rubber | sheet |
| 12208/5 | <u>Rubbers</u> :- Natural rubber | Band form |
| 12208/6 | <u>Plastics</u> :- Polyvinyl chloride (PVC) | Sheet |
| 12208/7 | <u>Plastics</u> :- Polyurethane | Bar stock |
| 12208/8 | <u>Plastics</u> :- Polyethylene | Sheet |
| 12208/9 | <u>Plastics</u> :- Polypropylene | Sheet |
| 12208/10 | <u>Plastics</u> :- Polycarbonate | Bar stock |

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Example photographs of material under test



12208P1 Wipe on loaded hand moving across PVC sheet



12208P2 Wipe on loaded hand moving across Polypropylene sheet

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Microscopy examination: x20 and x40

X20 magnification:- Enables larger area to be scanned but in less detail.

X40 magnification:-Examination of more detail over smaller area

Comparison was made between treated and untreated areas

- 12208/1 Rubbers:- Latex
X20 magnification:- No obvious surface damage
Some surface smoothing were the wipe had crossed the surface. No obvious scratching , pitting or peeling. No obvious visible change in surface texture.
X40 magnification:- No obvious surface damage
Smoothing clearly observed but no obvious visible changes
- 12208/2 Rubbers:- viscoelastic
X20 magnification:- No obvious surface damage
Scanning of the surface did not show any detrimental changes
X40 magnification:- No obvious surface damage
Detailed examination of sample areas showed no obvious changes
- 12208/3 Rubbers:- acrylic rubber
X20 magnification:- No obvious surface damage
Scanning of the surface did not show any detrimental changes
X40 magnification:- No obvious surface damage
Detailed examination of sample areas showed no obvious changes
- 12208/4 Rubbers:-polyurethane rubber
X20 magnification:- No obvious surface damage
Scanning of the surface showed some fine abrasion of the surface cells.
X40 magnification:- No obvious surface damage
Detailed examination of sample areas showed no obvious changes
- 12208/5 Rubbers:- natural rubber
X20 magnification:- No obvious surface damage
Scanning of the surface did not show any obvious detrimental changes
X40 magnification:- No obvious surface damage
Detailed examination of sample areas showed no obvious changes
- 12208/6 Plastics:- Polyvinyl chloride (PVC),
X20 magnification:- No obvious surface damage
Scanning of the surface did not show any obvious detrimental changes
X40 magnification:- No obvious surface damage
Detailed examination of sample areas showed no obvious changes

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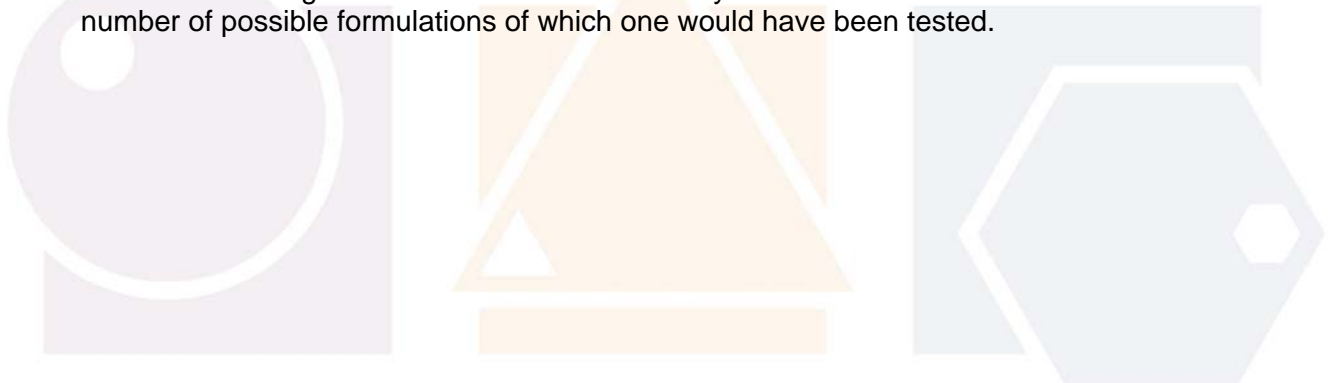


Microscopy Examination (Continued)

- 12208/7 Plastics:- polyurethane
X20 magnification:- No obvious surface damage
Scanning of the surface did not show any obvious detrimental changes
X40 magnification:- No obvious surface damage
Detailed examination of sample areas showed no obvious changes
- 12208/8 Plastics:- polyethylene
X20 magnification:- No obvious surface damage
Scanning of the surface did not show any obvious detrimental changes
X40 magnification:- No obvious surface damage
Detailed examination of sample areas showed some slight smoothing of the surface.
- 12208/9 Plastics:- polypropylene
X20 magnification:- No obvious surface damage
Scanning of the surface did not show any obvious detrimental changes
X40 magnification:- No obvious surface damage
Detailed examination of sample areas showed some slight smoothing of the surface
- 12208/10 Plastics:- polycarbonate
X20 magnification:- . No obvious surface damage
Scanning of the surface did not show any obvious detrimental changes apart from scratch. This may have been present prior to the testing.
X40 magnification:- Surface scratching possible due to dust particles
One scratch possibly from a dust partial produced a small surface imperfection

Materials:

All materials were commercially available materials and used as supplied. Identification based on labelling of material as received. Clearly some of these materials have a number of possible formulations of which one would have been tested.



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Conclusion

The following statement is not covered by any of our accreditations

The number of wipes per material simulated one wipe per day for three years. The dry time between wipes was reduced from 24 hours to 10 minutes to enable the testing to be conducted in a reasonable time scale.

Each material was subjected to a single wipe, with a new wipe every 10 minutes, for a total of 1096 wipes. Each of the materials were then examined both aided and unaided and none of the materials showed any obvious physical change.

This would tend to indicate that Clinell Universal Sanitising Wipes do not detrimentally affect the materials tested within the simulated 3 years.

These results relate only to the sample(s) tested and do not guarantee the bulk of the material to be of equal quality. JCST cannot be held liable in respect of the way this information is used. The report shall not be reproduced, except in full, without prior written approval of JCS Technology.

End of Report

Ken James
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