

TEST RESULTS and REPORT

for

Dynamic Laboratories

by



COLTS | Laboratories™
Precision Testing. Definitive Results.

P-DYN010220-02

UltraVue Gel Lens Cleaner

- Unless otherwise stated, results in this report apply only to the samples tested and not to lots from which they were taken.
- This report shall not be reproduced, except in full, without the written approval from COLTS Laboratories.
- Unless otherwise requested, test samples will be discarded 21 days from the report date.

Report Prepared for:
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COLTSTM
 Laboratories

SUMMARY**Dynamic Laboratories****P-DYN010220-02**

DYN010220-02	UltraVue gel lens cleaner		
Oily Cleaning (Solution w/ Microfiber Cloth Performance Seal)-SQ	0.00		
AR Cleaning Solution Soak (CX Performance Seal)-SQ 48 HRS	Crazing-A	Delamination-B	Cloudiness-E
	5.0	5.0	5.0
AR Cleaning Solution Soak (CC Performance Seal)-SQ 48 HRS	Crazing-A	Delamination-B	Cloudiness-E
	5.0	5.0	5.0

UltraVue gel lens cleaner



Dynamic Laboratories

Sample:

UltraVue gel lens cleaner

For Test:

Oily Cleaning (Cleaner Solution w/ Microfiber Cloth Performance Seal)-SQ

Colts Internal Control Number:

P-DYN010220-02-01

Sample Group Description

Samples		Material / Coatings (HC,AR)			Comments:
Manufacturer:	Dynamic Laboratories	Material:	N/A		
		Coating Type:	N/A		
Requested by:	Steve Zwerman	Lens Type:	Lens Cleaner w/ Microfiber		
Lab Temp:	24C	Lab Rh:	45%		
Date Received:	1/2/2020	Date Tested:	1/16/2020	Report Date:	

Haze Readings

Test	Initial Haze	After 20 Cycles	After 40 Cycles	After 60 Cycles	Delta Haze
P-DYN010220-02-01-01	0.05	0.35	0.09	0.05	0.00
P-DYN010220-02-01-02	0.06	0.98	0.07	0.06	0.00
P-DYN010220-02-01-03	0.07	0.45	0.07	0.07	0.00
P-DYN010220-02-01-04	0.09	1.03	0.11	0.09	0.00
P-DYN010220-02-01-05	0.07	0.69	0.08	0.07	0.00
P-DYN010220-02-01-06	0.07	0.19	0.08	0.07	0.00
P-DYN010220-02-01-07	0.04	0.42	0.05	0.04	0.00
P-DYN010220-02-01-08	0.07	0.74	0.10	0.07	0.00
P-DYN010220-02-01-09	0.06	0.83	0.07	0.06	0.00
P-DYN010220-02-01-10	0.08	1.68	0.08	0.08	0.00
P-DYN010220-02-01-11	0.06	0.88	0.07	0.06	0.00
P-DYN010220-02-01-12	0.06	0.65	0.07	0.08	0.02

Average Haze Gain

0.00

Standard Deviation of Haze Readings

0.01



Dynamic Laboratories

Sample:

UltraVue gel lens cleaner

For Test:

AR Cleaning Solution Soak (CX Performance Seal)-SQ 24HRS

Colts Internal Control Number:

P-DYN010220-02-02-01

Sample Group Description

Samples		Material / Coatings (HC,AR)		Comments:	
Manufacturer:	Dynamic Laboratories	Material:	N/A		
		Coating Type:	N/A		
Requested by:	Steve Zwerman	Lens Type:	Lens Cleaner w/ Microfiber		
Lab Temp:	23C	Lab Rh:	50%		
Date Received:	1/2/2020	Date Tested:	1/15/2020		

Test	pH	Crazing-A	Delamination-B	Cloudiness-E
P-DYN010220-02-02-01-01	6.40	5	5	5
P-DYN010220-02-02-01-02	6.40	5	5	5
P-DYN010220-02-02-01-03	6.40	5	5	5
P-DYN010220-02-02-01-04	6.40	5	5	5
P-DYN010220-02-02-01-05	6.40	5	5	5
P-DYN010220-02-02-01-06	6.40	5	5	5
P-DYN010220-02-02-01-07	6.40	5	5	5
P-DYN010220-02-02-01-08	6.40	5	5	5
P-DYN010220-02-02-01-09	6.40	5	5	5
P-DYN010220-02-02-01-10	6.40	5	5	5

See Exhibit(s) A and E for explanation of results.



Subjective Delamination, Crazeing and Crosshatch ratings.

Rate and record the performance for the surface exposed on each lens according to the following classification and description.

Classification Category A - Crazeing

Classification	Description
A5	No visible Crazeing.
A4	Hairline Crazeing only just visible points or cracks.
A3	Hairline Crazeing up to 25% of the lens surface.
A2	Hairline Crazeing up to 75% of the lens surface.
A1	Hairline Crazeing over the entire lens surface.
A0	Severe Fern-like or Matt-like Crazeing over any region of lens.

Classification Category B - Delamination - Interlayer detachment.

Classification	Description
B5	No Delamination of individual layers over entire lens surface.
B4	Partial Delamination of individual layers up to 25% of the surface.
B3	Partial Delamination of individual layers up to 75% of the surface.
B2	Total Delamination of individual layers over the entire lens surface.

Classification Category D - Crosshatch







See exhibit B for classifications and descriptions.

NOTE: **Classification B** relates to either a single layer hard coat or the thin film coating where one is delaminating and where one or both have been applied to the lens depending on the product type. (i.e., HC, Thin Film, HC & Thin Film)

For each lens tested, note any evidence of stains, smears, streaks or cloudiness.



EXHIBIT E
COLTS CIRRUS CLOUDINESS SCALE

Classification	Appearance	Description
5		The lens must not show any evidence of effects.
4		The lens shows effects over less than 5% of the total area. The circles show the affected areas.
3		The area affected is 5% to 25% of the total area. The circles show the affected areas.
2		The area affected is 25% to 50% of the total area.
1		The area affected is 50% to 70% of the total area.
0		The area affected is greater than 70% of the total area.



Dynamic Laboratories

Sample:

UltraVue gel lens cleaner

For Test:

AR Cleaning Solution Soak (CX Performance Seal)-SQ 48 HRS

Colts Internal Control Number:

P-DYN010220-02-02-02

Sample Group Description

Samples		Material / Coatings (HC,AR)			Comments:
Manufacturer:	Dynamic Laboratories	Material:	N/A		
		Coating Type:	N/A		
Requested by:	Steve Zwerman	Lens Type:	Lens Cleaner w/ Microfiber		
Lab Temp:	23C	Lab Rh:	53%		
Date Received:	1/2/2020	Date Tested:	1/16/2020	Report Date:	

Test	pH	Crazing-A	Delamination-B	Cloudiness-E
P-DYN010220-02-02-02-01	6.40	5	5	5
P-DYN010220-02-02-02-02	6.40	5	5	5
P-DYN010220-02-02-02-03	6.40	5	5	5
P-DYN010220-02-02-02-04	6.40	5	5	5
P-DYN010220-02-02-02-05	6.40	5	5	5
P-DYN010220-02-02-02-06	6.40	5	5	5
P-DYN010220-02-02-02-07	6.40	5	5	5
P-DYN010220-02-02-02-08	6.40	5	5	5
P-DYN010220-02-02-02-09	6.40	5	5	5
P-DYN010220-02-02-02-10	6.40	5	5	5

Average Effects @ 48 HRS

5.0

5.0

5.0

See Exhibit(s) A and E for explanation of results.



Dynamic Laboratories

Sample:

UltraVue gel lens cleaner

For Test:

AR Cleaning Solution Soak (CC Performance Seal)-SQ 24 HRS

Colts Internal Control Number:

P-DYN010220-02-02-03

Sample Group Description

Samples		Material / Coatings (HC,AR)		Comments:	
Manufacturer:	Dynamic Laboratories	Material:	N/A		
		Coating Type:	N/A		
Requested by:	Steve Zwerman	Lens Type:	Lens Cleaner w/ Microfiber		
Lab Temp:	23C	Lab Rh:	50%		
Date Received:	1/2/2020	Date Tested:	1/15/2020		

Test	pH	Crazing-A	Delamination-B	Cloudiness-E
P-DYN010220-02-02-03-01	6.40	5	5	5
P-DYN010220-02-02-03-02	6.40	5	5	5
P-DYN010220-02-02-03-03	6.40	5	5	5
P-DYN010220-02-02-03-04	6.40	5	5	5
P-DYN010220-02-02-03-05	6.40	5	5	5
P-DYN010220-02-02-03-06	6.40	5	5	5
P-DYN010220-02-02-03-07	6.40	5	5	5
P-DYN010220-02-02-03-08	6.40	5	5	5
P-DYN010220-02-02-03-09	6.40	5	5	5
P-DYN010220-02-02-03-10	6.40	5	5	5

See Exhibit(s) A and E for explanation of results.



Dynamic Laboratories

Sample:

UltraVue gel lens cleaner

For Test:

AR Cleaning Solution Soak (CC Performance Seal)-SQ 48 HRS

Colts Internal Control Number:

P-DYN010220-02-02-04

Sample Group Description

Samples		Material / Coatings (HC,AR)			Comments:
Manufacturer:	Dynamic Laboratories	Material:	N/A		
		Coating Type:	N/A		
Requested by:	Steve Zwerman	Lens Type:	Lens Cleaner w/ Microfiber		
Lab Temp:	23C	Lab Rh:	53%		
Date Received:	1/2/2020	Date Tested:	1/16/2020	Report Date:	

Test	pH	Crazing-A	Delamination-B	Cloudiness-E
P-DYN010220-02-02-04-01	6.40	5	5	5
P-DYN010220-02-02-04-02	6.40	5	5	5
P-DYN010220-02-02-04-03	6.40	5	5	5
P-DYN010220-02-02-04-04	6.40	5	5	5
P-DYN010220-02-02-04-05	6.40	5	5	5
P-DYN010220-02-02-04-06	6.40	5	5	5
P-DYN010220-02-02-04-07	6.40	5	5	5
P-DYN010220-02-02-04-08	6.40	5	5	5
P-DYN010220-02-02-04-09	6.40	5	5	5
P-DYN010220-02-02-04-10	6.40	5	5	5

Average Effects @ 48 HRS

5.0

5.0

5.0

See Exhibit(s) A and E for explanation of results.