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# **STABILITY STUDY REPORT**



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## STABILITY TEST

### I. Stability Study Protocol

Name of the product: AUROFORT- 5mL (Prednisolone acetate 1.0% w/v)

1.- Description of method used during the test

**1.1 Quantitative Composition:** Each ml contains:

Approved Generic Name (INN)	Quantity(mg)/mL	Specification
Prednisolone Acetate	10.0	USP
Hypromellose	2.5	BP
Sodium Chloride	5.0	BP
Sodium citrate	0.5	BP
EDTA	0.1	BP
Benzalkonium chloride	0.11	BP
Purified water	Quantity Sufficient	BP



## **1.2 Study Method:**

The same methodology of finished product.

### **1.2.1.Storage condition and Testing period**

The study reports the accelerated degradation at 40 +/-2°C / 75% +/- 5% RH, and the real degradation of the product at 30 +/-2°C / 60% +/- 5% RH.

This stability test was executed each 0, 3, 4, 5, and 6 months for the accelerated degradation, and executed each 0, 3, 6, 9, 12, 18, 24, 25, 26, and 27 months for the real degradation from the initial experiment.

STORAGE CONDITION	SAMPLING INTERVALS
Real Time storage: 30+/-2°C/60%+/-5% RH	0, 3, 6 , 9, 12, 18, 24, 25, 26 and 27 months
Accelerated storage: 40+/-2°C/75%+/-5% RH	0, 3, 4, 5, 6 months

### **1.2.2. Testing time**

Batch details are given below:

No.	Batch No.	Mfg. Date	Date of starting study	Batch size
1	AFT-08-001	Mar. 2008	10 Mar.2008	20 lts
2	AFT-08-002	Apr. 2008	05 Apr.2008	20 lts
3	AFT-08-003	May. 2008	11 May 2008	20 lts

### **1.2.3. Specification and method**

The acquired stability data of AUROFORT- 5mL (Prednisolone acetate ophthalmic suspension USP 1%w/v) (Batch No: AF-08-001, AF-08-002, and AF-08-003 of the same are enclosed at the end of the section. Stability studies of AURFORT- 5mL (Prednisolone acetate ophthalmic suspension USP 1%w/v) include following tests and the samples are analyzed as per the shelf life specification finished product specifications, as depicted in the table below:

No	Tests	Specification Limits
1	Description	Colorless sterile suspension
2	Label checking	Clear & Legible
3	Uniformity of volume (ml)	NLT 5.0ml
4	Identification TLC method	The R <sub>f</sub> value of principal spot obtained from the sample should be same as the of standard
5	pH	5.0 - 6.0
6	Specific gravity at 25°C	1.000 - 1.025
7	Assay of (%) Prednisolone acetate	0.90 — 1.10%
8	Assay of preservative Benzalkonium chloride	0.0090 — 0.0120%
9	Sterility	Should be sterile



## 2.- Package:

No	Packaging Material
1	Primary pack: White bottles: Low Density PolyEthylene White cap: High density PolyEthylene Nozzles: Polypropylene
2	Secondary pack: Carton box

## 3.- Stability summary and Conclusion:

Three batches of AUROFORT- 5mL (Prednisolone acetate ophthalmic suspension USP 1%w/v) manufactured were kept under stability study. These batches have completed 6 months accelerated study and 27 months real time study. The results obtained are well within the specified limits. The stability data already accomplished is complying with the existing shelf life specifications.

From the enclosed stability data, it is found that there are no significant physicochemical changes in the product in the both the stability studies. All parameters remain within the specification limits, with no evidence of degradation or loss of potency.

Based on Accelerated and Real time stability data, shelf life of 24 months can be assigned to AUROFORT- 5mL (Prednisolone acetate ophthalmic suspension USP 1%w/v).

Any extension of expiration dating (shelf life) shall be communicated to the agency following appropriate regulatory procedures.



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#### 4.- Place

##### ***4.1 Manufacturer Laboratory Place and Place where Stability Studies conducted:***

Aurolab, 1 Sivagangai Main Road Veerapanjan, Madurai - 625 020, India. Tel : 91 452 309 6100 Fax: 91 452 244 6200

##### ***4.2 Manufacturer of API:***

Details of Active Pharmaceutical Ingredient (API):

Name of the API: Prednisolone acetate USP

Name of the Manufacturer:

NEXUS PHARMACHEM Pvt. Ltd.

Plot #2511, Phase III, GIDC Naroda, Ahmedabad-382330, India

Phone: 91 79 2280 8200

Fax: 91 79 2280 8300

E-mail: [info@nexuspharma.com](mailto:info@nexuspharma.com)





Excellence...in sight ACCELERATED STABILITY STUDY REPORT FOR AUROFORT  
Pharmaceutical Division

**AUROFORT (PREDNISOLONE ACETATE OPHTHALMIC SUSPENSION 1%w/v)**

Name of the product : Prednisolone Acetate ophthalmic suspension USP 1.0%w/v – 5ml

Batch No : AFT-08 -001 Temp :  $40 \pm 2^{\circ}\text{C}$  Primary pack : LDPE Container

Mfg.Date : Mar'08 RH :  $25 \pm 5\%$  Secondary pack : Carton box

Exp.date : Feb'10 Shelf life: 2 years Formula : Same as in DMF

Manufg.method : ED-MP- 12 Source : Symbiotec- India

S.No	Tests	Specification	Initial Mar'08	3 months June'08	4 months July'08	5 months Aug'08	6 months Sep'08
1	Description	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension
2	Label checking	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible
3	Uniformity of volume (ml)	NLT 5.0ml	5.1ml	5.0ml	5.0ml	5.1ml	5.0ml
4	Identification TLC method	The Rf value of principle spot obtained with test solution should corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution
5	pH	5.0 – 6.0	5.95	5.82	5.77	5.61	5.54
6	Specific gravity at 25°C	1.000 – 1.025	1.007	1.007	1.007	1.007	1.007
7	Assay Prednisolone Acetate	0.90 – 1.10%	1.02%	1.011%	0.99%	0.98%	0.975%
	Benzalkonium chloride	0.0090 – 0.0120%	0.011%	0.0099%	0.0097%	0.0097%	0.0096%

**Remarks: The product is stable upto 6months when stored at accelerated conditions**

Test conducted by:  
P. O. J. A. N. J.  
Quality control chemist

Date: 05/10/2008

Reviewed by: S. Pashmy  
Quality control chemist

Date: 05/10/2008

Approved by: J. N. S. S. S.  
Quality Assurance Manager

Date: 05/10/2008





Excellence...in sight **ACCELERATED STABILITY STUDY REPORT FOR AUROFORT**  
Pharmaceutical Division

**AUROFORT (PREDNISOLONE ACETATE OPHTHALMIC SUSPENSION 1%w/v)**

Name of the product : Prednisolone Acetate ophthalmic suspension USP 1.0%w/v – 5ml

Batch No : AFT-08 -002 Temp :  $40 \pm 2^{\circ}\text{C}$  Primary pack : LDPE Container

Mfg.Date : Apr'08 RH :  $25 \pm 5\%$  Secondary pack : Carton box

Exp.date : Mar'10 Shelf life: 2 years Formula : Same as in DMF

Manufg.method : ED-MP- 12 Source : Symbiotec- Mumbai

S.No	Tests	Specification	Initial Apr'08	3 months July'08	4 months Aug'08	5 months Sep'08	6 months Oct'08
1	Description	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension
2	Label checking	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible
3	Uniformity of volume (ml)	NLT 5.0ml	5.0ml	5.0ml	5.1ml	5.1ml	5.1ml
4	Identification TLC method	The Rf value of principle spot obtained with test solution should corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution
5	pH	5.0 – 6.0	5.92	5.83	5.72	5.56	5.50
6	Specific gravity at 25°C	1.000 – 1.025	1.007	1.007	1.007	1.007	1.007
7	Assay Prednisolone Acetate	0.90 – 1.10%	1.00%	0.997%	0.99%	0.982%	0.978%
	Benzalkonium chloride	0.0090 – 0.0120%	0.011%	0.010%	0.0099%	0.0098%	0.0098%

**Remarks: The product is stable upto 6months when stored at accelerated conditions -**

Test conducted by:

*P. Anand*  
Quality control chemist

Date: 01/11/2008

Reviewed by:

*B. Pathy*  
Quality control chemist

Date: 01/11/2008

Approved by:

*J. Venkateshwar*  
Quality Assurance Manager

Date: 01/11/2008





Excellence...in sight **ACCELERATED STABILITY STUDY REPORT FOR AUROFORT**  
Pharmaceutical Division

**AUROFORT (PREDNISOLONE ACETATE OPHTHALMIC SUSPENSION 1%w/v)**

Name of the product : Prednisolone Acetate ophthalmic suspension USP 1.0%w/v – 5ml

Batch No : AFT-08 -003 Temp :  $40 \pm 2^{\circ}\text{C}$  Primary pack : LDPE Container

Mfg.Date : May'08 RH :  $25 \pm 5\%$  Secondary pack : Carton box

Exp.date : Apr'10 Shelf life: 2 years Formula : Same as in DMF

Manufg.method : ED- MP- 12 Source : Symbiotec-India

S.No	Tests	Specification	Initial May'08	3 months Aug'08	4 months Sep'08	5 months Oct'08	6 months Nov'08
1	Description	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension
2	Label checking	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible
3	Uniformity of volume (ml)	NLT 5.0ml	5.0ml	5.0ml	5.0ml	5.0ml	5.0ml
4	Identification TLC method	The Rf value of principle spot obtained with test solution should corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution	The Rf value of principle spot obtained with test solution is corresponds to that of standard solution
5	pH	5.0 – 6.0	5.87	5.81	5.73	5.65	5.50
6	Specific gravity at 25°C	1.000 – 1.025	1.007	1.007	1.007	1.007	1.007
7	Assay Prednisolone Acetate	0.90 – 1.10%	1.05%	1.03%	1.00%	0.99%	0.98%
	Benzalkonium chloride	0.0090 – 0.0120%	0.0112%	0.010%	0.0099%	0.0098%	0.0098%

**Remarks: The product is stable upto 6months when stored at accelerated conditions**

Test conducted by:

Quality control chemist

Date: 15/12/2008

Reviewed by:

Quality control chemist

Date: 15/12/2008

Approved by:

Quality Assurance Manager

Date: 15/12/2008



# REAL TIME STABILITY STUDY REPORT FOR AUROFORT

Pharmaceutical Division

Batch No : AFT-08-001 Temp :  $30 \pm 2^{\circ}\text{C}$   
Mfg.date : Mar' 08 RH :  $35 \pm 5\%$   
Exp.date : Feb'10 Shelf life : 2 years

Primary pack : LowDensityPolyEthylene Container  
Secondary pack : Carton box

## OBSERVED RESULTS

S.No	Tests	Specification	Initial Mar'08	3 months Jun'08	6 months Sep'08	9 months Dec'08	12 months Mar'09	18 months Sep'09	24 months Mar'10	25 months Apr'10	26 months May'10	27 months June'10
1	Description	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension
2	Label checking	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible
3	Uniformity of volume (ml)	NLT 5.0ml	5.1	5.0	5.1	5.1	5.0	5.0	5.1	5.0	5.1	5.1
4	Identification By TLC Method	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test iscorresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test iscorresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test iscorresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test iscorresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test iscorresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test iscorresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test iscorresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test iscorresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test iscorresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test iscorresponds to that obtained from the standard solution
5	pH	5.0 - 6.0	5.95	5.95	5.93	5.89	5.82	5.8	5.76	5.74	5.7	5.68
6	Specific gravity	1.000 - 1.025	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007
7	Assay of Prednisolone acetate	0.90% - 1.10%	1.020	1.015	1.010	1.000	0.990	0.993	0.980	0.975	0.971	0.965
8	Assay of Benzalkonium chloride	0.0090% - 0.0120%	0.0110	0.0120	0.0100	0.0099	0.0098	0.0098	0.0097	0.0097	0.0096	0.0096
9	Sterility	Should be No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth

Remarks: The product is stable for 27 months at temperature not exceeding  $32^{\circ}\text{C}$ . The declared shelf life is 24 months from the date of manufacturing.

Analysed by : P. Arora  
Quality control chemist  
Date: 01/07/2010

Reviewed by : S. Pathy  
Quality control chemist  
Date: 01/07/2010

Approved by : J. Venkateswarar  
Quality Assurance Manager  
Date: 01/07/2010





Pharmaceutical Division

Batch No : AFT-08-003 Temp :  $30 \pm 2^{\circ}\text{C}$   
Mfg.date : May' 08 RH :  $35 \pm 5\%$   
Exp.date : Apr'10 Shelf life : 2 years

Primary pack : LowDensityPolyEthylene Container  
Secondary pack : Carton box

# REAL TIME STABILITY STUDY REPORT FOR AUROFORT

## OBSERVED RESULTS

S.No	Tests	Specification	Initial May'08	3 months Aug'08	6 months Nov'08	9 months Feb'09	12 months May'09	18 months Nov'09	24 months May'10	25 months June'10	26 months July'10	27 months Aug'10
1	Description	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension
2	Label checking	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible
3	Uniformity of volume (ml)	NLT 5.0ml	5.0	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.1	5.0
4	Identification By TLC Method	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test is solution corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test is solution corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test is solution corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test is solution corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test is solution corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test is solution corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test is solution corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test is solution corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test is solution corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test is solution corresponds to that obtained from the standard solution
5	pH	5.0 - 6.0	5.87	5.81	5.76	5.71	5.65	5.6	5.53	5.47	5.4	5.35
6	Specific gravity	1.000 - 1.025	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007
7	Assay Prednisolone acetate	0.90% - 1.10%	1.050	1.020	1.010	1.000	0.993	0.990	0.984	0.980	0.976	0.97
8	Assay of Benzalkonium chloride	0.0090% - 0.0120%	0.0112	0.0110	0.0100	0.0099	0.0099	0.0098	0.0098	0.0098	0.0097	0.0097
9	Sterility	Should be No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth

Remarks: The product is stable for 27 months at temperature not exceeding  $32^{\circ}\text{C}$ . The declared shelf life is 24 months from the date of manufacturing.

Analysed by : P. Praty  
Quality control chemist  
Date: 20/08/2010

Reviewed by : S. Palmy  
Quality control chemist  
Date: 20/08/2010

Approved by : J. Venkateshwar  
Quality Assurance Manager  
Date: 20/08/2010





Pharmaceutical Division

Batch No : AFT-08-002 Temp :  $30 \pm 2^{\circ}\text{C}$   
Mfg.date : Apr' 08 RH :  $35 \pm 5\%$   
Exp.date : Mar'10 Shelf life : 2 years

Primary pack : LowDensityPolyEthylene Container  
Secondary pack : Carton box

# REAL TIME STABILITY STUDY REPORT FOR AUROFORT

## OBSERVED RESULTS

S.No	Tests	Specification	Initial Apr'08	3 months July'08	6 months Oct'08	9 months Jan'09	12 months Apr'09	18 months Oct'09	24 months Apr'10	25 months May'10	26 months June'10	27 months July'10
1	Description	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension	Colorless suspension
2	Label checking	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible	Clear & legible
3	Uniformity of volume (ml)	NLT 5.0ml	5.0	5.1	5.0	5.0	5.1	5.1	5.1	5.0	5.1	5.0
4	Identification	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution	The Rf value of the principal spot obtained from the solution under test corresponds to that obtained from the standard solution
5	pH	5.0 - 6.0	5.92	5.84	5.78	5.72	5.65	5.52	5.48	5.4	5.33	5.3
6	Specific gravity	1.000 - 1.025	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007
7	Assay Prednisolone acetate	0.90% - 1.10%	1.000	1.010	0.994	0.990	0.984	0.980	0.976	0.971	0.968	0.96
8	Assay of Benzalkonium chloride	0.0090% - 0.0120%	0.0110	0.0105	0.0100	0.0099	0.0099	0.0098	0.0098	0.0097	0.0097	0.0097
9	Sterility	Should be No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth	No growth

Remarks: The product is stable for 27 months at temperature not exceeding  $32^{\circ}\text{C}$ . The declared shelf life is 24 months from the date of manufacturing.

Analysed by : P. B. N. S.  
Quality control chemist  
Date: 01/08/2010

Reviewed by : S. P. S.  
Quality control chemist  
Date: 01/08/2010

Approved by : J. V. S.  
Quality Assurance Manager  
Date: 01/08/2010