OPKO CHILE S.A.

ESTUDIO DE ESTABILIDAD

METFORMINA CLORHIDRATO COMPRIMIDOS RECUBIERTOS 850 MG

Subdepartamento Registros y Autorizaciones Sanitarias

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PROTOCOLO

Se realizó una evaluación de la estabilidad de tres lotes de Metformina clorhidrato comprimidos recubiertos 850 mg fabricados por Pell Tech Health Care Pvt. Ltd. El estudio se llevó a cabo a dos tiempos y condiciones ambientales. A continuación los lotes a analizar:

Número de lote	Fecha de manufactura	Tamaño de Lote
5848001	03/2008	5.000 comprimidos
5848002	03/2008	5.000 comprimidos
5848003	03/2008	5.000 comprimidos

Nombre y país del Fabricante:
Pell Tech Health Care Pvt. Ltd.
Plot Nº20B, Tansa Farm Estate, Bhiwandi Wada Road, Village met, Thane 421302, India.

Nombre y país del Laboratorio que desarrolla este estudio de Estabilidad:
Pell Tech Health Care Pvt. Ltd.
Plot Nº20B, Tansa Farm Estate, Bhiwandi Wada Road, Village met, Thane 421302, India

1. Condiciones

El estudio se realizó almacenando muestras, en las siguientes condiciones de temperatura y humedad relativa:

	Estudio Acelerado	Estudio a tiempo real
Temperatura	40 ºC ± 2 ºC	30 ºC ± 2 ºC
Humedad	75 % ± 5 % H. R.	65 % ± 5 % H. R

2. Tipo de envase

Blister de Aluminio –PVC en estuche de cartulina.

3. Número de muestras analizadas

Se analizó un total de 60 comprimidos de cada lote en cada prueba realizada.

4. Fecha de inicio y fin del estudio de estabilidad

- Fecha de inicio: El estudio de ambos estudios de estabilidad dieron inicio el día 15/03/2008.
- Fecha de término: El estudio de estabilidad acelerada finalizó el 14/09/2008; mientras que el estudio de estabilidad a tiempo real finalizó el 15/03/11.

5. Análisis realizados y frecuencia de testeo:

a) Estudio de estabilidad acelerado

PARÁMETROS MEDIDOS	INICIAL	1 MES	2 MESES	3 MESES	6 MESES
Descripción	√	√	√	√	√
Peso de 20 comprimidos	√	√	√	√	√
Peso promedio del comprimido	√	√	√	√	√
Dureza	√	√	√	√	√
Tiempo de desintegración	√	√	√	√	√
Disolución En 45 minutos	√	√	√	√	√
Sustancias relacionadas: 1-Cianoguanidina	√	√	√	√	√
Valoración	√	√	√	√	√

a) Estudio de estabilidad a tiempo real

PARÁMETROS MEDIDOS	INICIAL	3 MESES	6 MESES	9 MESES	12 MESES	18 MESES	24 MESES	36 MESES
Descripción	√	√	√	√	√	√	√	√
Peso de 20 comprimidos	√	√	√	√	√	√	√	√
Peso promedio del comprimido	√	√	√	√	√	√	√	√
Dureza	√	√	√	√	√	√	√	√
Tiempo de desintegración	√	√	√	√	√	√	√	√
Disolución En 45 minutos	√	√	√	√	√	√	√	√
Sustancias relacionadas: 1-Cianoguanidina	√	√	√	√	√	√	√	√
Valoración	√	√	√	√	√	√	√	√

6. Especificaciones de producto terminado

TEST		ESPECIFICACIÓN	MÉTODO
Descripción		Comprimidos recubiertos blancos, biconvexos.	Inspección visual
Identificación (UV)	**A. Espectro IR**	A. El espectro de absorción infrarojo (IR) del residuo es concordante con el espectro de referencia de Metformina Clorhidrato.	BP, Apéndice II A
	B. Espectroscopia UV (232 nm)	B. El espectro UV de la muestra es concordante con el espectro de referencia de Metformina Clorhidrato.	BP, Según Método de Valoración
Peso promedio del comprimido		950,00 mg ± 2% (931,00 – 969,00)	Gravimétrico
Uniformidad de peso		950,00 mg ± 5% (9302,50 – 997,50 mg)	Gravimétrico
Dimensiones	**Largo**	17,0 mm ± 0,5 mm (16,5 mm- 17,5 mm).	Vernier calipier
	Ancho	8,0 mm ± 0,5 mm (7,5 mm – 8,5 mm).	
	espesor	7,1 ± 0,5 mm (6,6 mm- 7,6 mm).	
Dureza		No menos de 5,0 kg/cm2.	Durómetro
Friabilidad		No menos de 1,0%.	USP <1216>
Tiempo de desintegración		No más de 30 minutos.	USP <701>
Disolución		No menos del 75% (Q) es liberado después de 45 minutos.	BP
Sustancias relacionadas: 1-Cianoguanidina		En el cromatograma obtenido con la solución (1) las áreas de cualquier peak correspondiente a 1-cianoguanidina no es mayor que el peak en el cromatograma obtenido con la solución (2) (0,02%).	HPLC
Valoración: (por UV) de Metformina Clorhidraro Valor teórico: 850 mg		No menos de 95% y no más de 105% de la cantidad declarada en la etiqueta. Límites: 807,5 - 896,5 mg	BP
Tipo de envase		Estuche de cartulina impreso que contiene Blister de Aluminio/PVC, impreso, más folleto de información al paciente y sello de seguridad.	Inspección visual

Las especificaciones del producto terminado que se consideraron para determinar durante el estudio de estabilidad, se eligieron con el criterio de que son las que realmente reflejarían un eventual deterioro físico-químico del producto.

FÓRMULA CUALICUANTITATIVA

Cada comprimido recubierto contiene:

INGREDIENTE	CANTIDAD (MG)	ESPECIFICACIÓN ANALÍTICA	USO
Núcleo			
Metformina Clorhidrato	850	BP *(Ph Eur monograph 0931)*	Principio activo
P.V.P.K 30	17,00	BP *(Ph Eur monograph0685)*	Agente enlazante
Almidón de maíz	30,15	BP *(Ph Eur monograph 0344)*	Relleno o volumen
Gelatina (240 bloom)	17,00	BP *(Ph Eur monograph 0330)*	Agente de recubrimiento
Talco Purificado	18,60	BP *(Talc, Ph Eur monograph 0438)*	Deslizante / Lubricante
Estearato de Magnesio	4,25	BP *(Ph Eur monograph 0229)*	Lubricante
Agua Purificada*	c.s	BP *Ph Eur monograph 0008)*	Vehículo
Recubrimiento			
Hidroxipropilmetilcelulosa E5(HPMC E5)	10,00	BP *(Ph Eur monograph 0348)*	Agente formador de film
Dióxido de Titanio	2,00	BP *(Ph Eur monograph 0150)*	Colorante
Macrogol	1,00	BP *(Ph Eur monograph 1444)*	Plastificante
Alcohol Isopropílico*	234,00	BP *(Ph Eur monograph 0970)*	Solvente
Dicloro metano*	126,00	BP *(Ph Eur monograph 0932)*	Solvente

*Solventes eliminados durante el proceso fabricación. No están presentes en el producto final.

ESTUDIO DE ESTABILIDAD EN ESTANTERÍA

TABLAS DE RESULTADOS

1. Estabilidad Acelerada

PELL TECH HEALTH CARE PVT. LTD.
20B, Tansa Farm Estate, Met, , Bhiwandi - Wada Road, Wada, Thane - 421 312, Maharashtra, India.

Stability Study Report
(Accelerated)

Product	**Metformin Hydrochloride Tablets BP 850 mg**					
Label Claim	Each film coated tablet contains: Metformin Hydrochloride BP 850 mg Excipients q.s. Colour: Titanium Dioxide BP		**Batch No.:** 5848001 **Mfg Date :** Mar-2008 **Exp. Date:** Feb-2011 **Packing:** Aluminium- PVC Blister **Storage Conditions:** 40°C±2°C & RH 75%±5%			
Test	**Specifications**	**Initial**	**1M**	**2M**	**3M**	**6M**
Description	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.
Weight of 20 Tablets	19.00 gm ± 5% (18.05 gm – 19.95 gm)	19.17 gm	19.14 gm	19.12 gm	19.12 gm	19.08 gm
Average Weight of Tablet	950mg ± 5% (902.5 mg – 997.5 mg)	958.5 mg	957.14 mg	956.02 mg	956. 01mg	954.25 mg
Hardness	Not less than 5.0 kg/cm^2	7 kg/cm2	7 kg/cm2	6 kg/cm2	6 kg/cm2	7 kg/cm2
Disintegration time	Not more than 30 mins	9 min 10 sec	9 min 08 sec	9 min 09 sec	8 min 45 sec	8 min 45 sec
Dissolution Time interval : 45 mins	Not less than 75% (Q) released after 45 mins.	99.91%	98.29%	99.30%	98.25%	98.24%
1-Cyanoguanidine	In the chromatogram obtained with solution (1) the area of any peak corresponding to 1-cyanoguanidine is not Greater than the area of the peak in the chromatogram obtained with solution (2) (0.02%).	0.0015%	0.0016%	0.0018%	0.0021%	0.0029%
Assay: Each film coated tablet contains: Metformin Hydrochloride BP 850mg	NLT 95.0% and NMT 105.0% of labelled amount (Between 807.5mg to 892.5mg)	100.04% (850.34mg)	99.48% (845.58mg)	99.13% (842.60 mg)	99.37% (844.64 mg)	99.24% (843.54mg)
	Date of Analysis	15/03/08	16/04/08	15/05/08	16/06/08	14/09/08

Remarks: The product is found to be stable for 6 Months at 40°C±2°C & RH 75%±5% and hence the projected shelf life of 36 months can be given to the product.

Date: 14/09/2008
AUTHORIZED SIGNATORY
DIRECTOR TECHNICAL
DR. AMITA KARNIK

Estudio de estabilidad

PELL TECH HEALTH CARE PVT. LTD.
20B, Tansa Farm Estate, Met, , Bhiwandi - Wada Road, Wada, Thane - 421 312, Maharashtra, India.

Stability Study Report
(Accelerated)

Product	**Metformin Hydrochloride Tablets BP 850 mg**					
Label Claim	Each film coated tablet contains: Metformin Hydrochloride BP 850 mg Excipients q.s. Colour: Titanium Dioxide BP		**Batch No.:** 5848002 **Mfg Date :** Mar-2008 **Exp. Date:** Feb-2011 **Packing:** Aluminium- PVC Blister **Storage Conditions: 40°C±2°C & RH 75%±5%**			
Test	**Specifications**	**Initial**	**1M**	**2M**	**3M**	**6M**
Description	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.
Weight of 20 Tablets	19.00 gm ± 5% (18.05 gm – 19.95 gm)	19.11 gm	19.08 gm	19.08 gm	19.04 gm	19.02 gm
Average Weight of Tablet	950.00mg ± 5% (902.5 mg – 997.5 mg)	955.5mg	954.21 mg	954.16 mg	952.12 mg	951.22mg
Hardness	Not less than 5.0 kg/cm2	8 kg/cm2	6 kg/cm2	7 kg/cm2	7 kg/cm2	6 kg/cm2
Disintegration time	Not more than 30 mins	9 min 09 sec	9 min 12 sec	9 min 11 sec	9 min 10 sec	9 min 11 sec
Dissolution Time interval : 45 mins	Not less than 75% (Q) released after 45 mins.	100.01%	99.96%	99.92%	99.86%	98.52%
1-Cyanoguanidine	In the chromatogram obtained with solution (1) the area of any peak corresponding to 1-cyanoguanidine is not Greater than the area of the peak in the chromatogram obtained with solution (2) (0.02%).	0.0017%	0.0019%	0.0026%	0.0029%	0.0034%
Assay: (By U.V.) Each film coated tablet contains: Metformin Hydrochloride BP 850mg	NLT 95.0% and NMT 105.0% of labelled amount (Between 807.5mg to 892.5mg)	100.05% (850.43 mg)	99.59% (846.52 mg)	99.78% (848.13 mg)	99.97% (849.75 mg)	99.24% (843.54 mg)
	Date of analysis	15/03/08	16/04/08	15/05/08	16/06/08	14/09/08

Remarks: The product is found to be stable for 6 Months at 40°C±2°C & RH 75%±5% and hence the projected shelf life of 36 months can be given to the product.

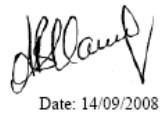
Date: 14/09/2008
AUTHORIZED SIGNATORY
DIRECTOR TECHNICAL
DR. AMITA KARNIK

PELL TECH HEALTH CARE PVT. LTD.
20B, Tansa Farm Estate, Met, , Bhiwandi - Wada Road, Wada, Thane - 421 312, Maharashtra, India.

Stability Study Report
(Accelerated)

Product	**Metformin Hydrochloride Tablets BP 850 mg**					
Label Claim	Each film coated tablet contains: Metformin Hydrochloride BP 850 mg Excipients q.s. Colour: Titanium Dioxide BP		**Batch No.:** 5848003 **Mfg Date :** Mar-2008 **Exp. Date:** Feb-2011 **Packing:** Aluminium- PVC Blister **Storage Conditions: 40°C±2°C & RH 75%±5%**			
Test	**Specifications**	**Initial**	**1M**	**2M**	**3M**	**6M**
Description	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.
Weight of 20 Tablets	19.00 gm ± 5% (18.05 gm – 19.95 gm)	19.11 gm	19.09 gm	19.09 gm	19.06 gm	19.04 gm
Average Weight of Tablet	950.00mg ± 5% (902.5 mg – 997.5 mg)	955.8 mg	954.85 mg	954.69 mg	953.28 mg	952.29mg
Hardness	Not less than 5.0 kg/cm2	7 kg/cm2	7 kg/cm2	6 kg/cm2	7 kg/cm2	6 kg/cm2
Disintegration time	Not more than 30 mins	9 min 11 sec	9 min 04 sec	9 min 02 sec	8 min 52 sec	9 min 40 sec
Dissolution Time interval : 45 mins	Not less than 75% (Q) released after 45 mins.	99.82%	95.40%	95.50%	95.60%	95.80%
1-Cyanoguanidine	In the chromatogram obtained with solution (1) the area of any peak corresponding to 1-cyanoguanidine is not Greater than the area of the peak in the chromatogram obtained with solution (2) (0.02%).	0.0019%	0.0021%	0.0022%	0.0027%	0.0031%
Assay: (By U.V.) Each film coated tablet contains: Metformin Hydrochloride BP850mg	NLT 95.0% and NMT 105.0% of labelled amount (Between 807.5mg to 892.5mg)	99.96% (849.66mg)	99.69% (847.37 mg)	99.48% (845.58 mg)	98.75% (839.37 mg)	97.44% (828.24 mg)
	Date of analysis	15/03/08	16/04/08	15/05/08	16/06/08	14/09/08

Remarks: The product is found to be stable for 6 Months at 40°C±2°C & RH 75%±5% and hence the projected shelf life of 36 months can be given to the product.



Date: 14/09/2008
AUTHORIZED SIGNATORY
DIRECTOR TECHNICAL
DR. AMITA KARNIK

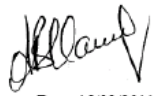
2. Estabilidad a tiempo real

PELL TECH HEALTH CARE PVT. LTD.
20B, Tansa Farm Estate, Met, , Bhiwandi - Wada Road, Wada, Thane - 421 312, Maharashtra, India.

Stability Study Report
(Long Term)

Product	**Metformin Hydrochloride Tablets BP 850 mg**								
Label Claim	Each film coated tablet contains: Metformin Hydrochloride BP 850 mg Excipients q.s. Colour: Titanium Dioxide BP				**Batch No.:** 5848001 **Mfg Date :** Mar-2008 **Exp. Date:** Feb-2011 **Packing:** Aluminium- PVC Blister **Storage Conditions: 30°C±2°C & RH 65%±5%**				
Test	**Specifications**	**Initial**	**3M**	**6M**	**9M**	**12M**	**18M**	**24M**	**36M**
Description	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.
Weight of 20 Tablets	19.00 gm ± 5% (18.05 gm – 19.95 gm)	19.17 gm	19.17 gm	19.16 gm	19.14 gm	19.12 gm	19.12 gm	19.10 gm	19.05 gm
Average Weight of Tablet	950.00mg ± 5% (902.5 mg – 997.5 mg)	958.5 mg	958.11 mg	958.09 mg	957.24 mg	956.31 mg	956.21 mg	955.45 mg	952.29 mg
Hardness	Not less than 5.0 kg/cm2	7 kg/cm2	7 kg/cm2	6 kg/cm2	6 kg/cm2	7 kg/cm2	6 kg/cm2	6 kg/cm2	5 kg/cm2
Disintegration time	Not more than 30 mins	9 min 10 sec	9 min 06 sec	9 min 09 sec	9 min 08 sec	8 min 35 sec	8 min 33 sec	8 min 10 sec	8 min 08 sec
Dissolution Time interval : 45 mins	Not less than 75% (Q) released after 45 mins.	99.91%	99.10%	98.90%	98.75%	98.25%	98.99%	98.10%	98.08%
1-Cyanoguanidine	In the chromatogram obtained with solution (1) the area of any peak corresponding to 1-cyanoguanidine is not Greater than the area of the peak in the chromatogram obtained with solution (2) (0.02%).	0.0015%	0.0017%	0.0019%	0.0023%	0.0025%	0.0027%	0.0031%	0.0033%
Assay: (By U.V.) Each film coated tablet contains: Metformin Hydrochloride BP 850mg	NLT 95.0% and NMT 105.0% of labelled amount (Between 807.5mg to 892.5mg)	100.04% (850.34mg)	99.10% (842.35mg)	99.15% (842.77mg)	98.25% (835.12mg)	97.85% (831.73mg)	97.75% (830.86mg)	97..72% (830.62 mg)	97.68% (830.28 mg)
	Date of analysis	15/03/08	16/06/08	14/09/08	15/12/08	15/03/09	14/09/09	15/03/10	15/03/11

Remarks: The product is found to be stable for 36 Months at 30°C±2°C & RH 65%±5% and hence the calculated shelf life of 36 Months is given to the product.



Date: 15/03/2011
AUTHORIZED SIGNATORY
DR. AMITA KARNIK
DIRECTOR TECHNICAL

PELL TECH HEALTH CARE PVT. LTD.
20B, Tansa Farm Estate, Met, , Bhiwandi - Wada Road, Wada, Thane - 421 312, Maharashtra, India.

Stability Study Report
(Long Term)

Product	**Metformin Hydrochloride Tablets BP 850 mg**								
Label Claim	Each film coated tablet contains: Metformin Hydrochloride BP 850 mg Excipients q.s. Colour: Titanium Dioxide BP				**Batch No.:** 5848002 **Mfg Date :** Mar-2008 **Exp. Date:** Feb-2011 **Packing:** Aluminium- PVC Blister **Storage Conditions: 30°C±2°C & RH 65%±5%**				
Test	**Specifications**	**Initial**	**3M**	**6M**	**9M**	**12M**	**18M**	**24M**	**36M**
Description	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.
Weight of 20 Tablets	19.00 gm ± 3% (18.43 gm – 19.58 gm)	19.11 gm	19.09 gm	19.09 gm	19.08 gm	19.08 gm	19.06 gm	19.04 gm	19.04 gm
Average Weight of Tablet	950.00mg ± 2% (931.00 mg – 969.00 mg)	955.5mg	954.4 mg	954.22mg	954.14 mg	954.07 mg	953.11 mg	952.35 mg	952.21 mg
Hardness	Not less than 5.0 kg/cm2	7 kg/cm2	6 kg/cm2	6 kg/cm2	7 kg/cm2	6 kg/cm2	7 kg/cm2	5 kg/cm2	5 kg/cm2
Disintegration time	Not more than 30 mins	9 min 09 sec	9 min 08 sec	9 min 05 sec	9 min 02 sec	9 min 05 sec	8 min 7 sec	8 min 3 sec	8 min 4 sec
Dissolution Time interval : 45 mins	Not less than 75% (Q))released after 45 mins.	100.01%	99.26%	98.57%	98.34%,	98.24%,	98.12%,	97.45%,	97.34%,
1-Cyanoguanidine	In the chromatogram obtained with solution (1) the area of any peak corresponding to 1-cyanoguanidine is not Greater than the area of the peak in the chromatogram obtained with solution (2) (0.02%).	0.0017%	0.0019%	0.0021%	0.0026%	0.0031%	0.0033%	0.0036%	0.0037%
Assay: (By U.V.) Each film coated tablet contains: Metformin Hydrochloride BP 850mg	NLT 95.0% and NMT 105.0% of labelled amount (Between 807.5mg to 892.5mg)	100.05% (850.43 mg)	99.80% (848.3 mg)	99.64% (846.94mg)	99.53% (846.00mg)	99.80% (848.3mg)	99.58% (846.43 mg)	99.40% (844.9 mg)	99.33% (844.30 mg)
	Date of analysis	15/03/08	16/06/08	14/09/08	15/12/08	15/03/09	14/09/09	15/03/10	15/03/11

Remarks: The product is found to be stable for 36 Months at 30°C±2°C & RH 65%±5% and hence the calculated shelf life of 36 Months is given to the product.

Date: 15/03/2011
AUTHORIZED SIGNATORY
DR. AMITA KARNIK
DIRECTOR TECHNICAL

PELL TECH HEALTH CARE PVT. LTD.
20B, Tansa Farm Estate, Met, , Bhiwandi - Wada Road, Wada, Thane - 421 312, Maharashtra, India.

Stability Study Report
(Long Term)

Product	**Metformin Hydrochloride Tablets BP 850 mg**								
Label Claim	Each film coated tablet contains: Metformin Hydrochloride BP 850 mg Excipients q.s. Colour: Titanium Dioxide BP				**Batch No.:** 5848003 **Mfg Date :** Mar-2008 **Exp. Date:** Feb-2011 **Packing:** Aluminium- PVC Blister **Storage Conditions: 30°C±2°C & RH 65%±5%.**				
Test	**Specifications**	**Initial**	**3M**	**6M**	**9M**	**12M**	**18M**	**24M**	**36M**
Description	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated tablets.	White, biconvex, capsule-shaped film coated	White, biconvex, capsule-shaped film coated tablets.
Weight of 20 Tablets	19.00 gm ± 3% (18.43 gm – 19.58 gm)	19.11 gm	19.10 gm	19.09 gm	19.06 gm	19.06 gm	19.04 gm	19.04 gm	19.04 gm
Average Weight of Tablet	950.00mg ± 2% (931.00 mg – 969.00 mg)	955.8 mg	955.3 mg	954.58 mg	953.14 mg	953.28 mg	952.38 mg	952.27 mg	952.19 mg
Hardness	Not less than 5.0 kg/cm2	7 kg/cm2	8 kg/cm2	7 kg/cm2	6 kg/cm2	6 kg/cm2	6 kg/cm2	5 kg/cm2	5 kg/cm2
Disintegration time	Not more than 30 mins	9 min 11 sec	6.3 min	7.2 min	7.8 min	8.5 gm	7.8 gm	7.4 gm	7.9
Dissolution Time interval : 45 mins	Not less than 75% (Q) released after 45 mins.	99.82%	99.45%,	98.57%	98.34%,	98.29%,	98.23%,	99.34%,	99.12%,
1-Cyanoguanidine	In the chromatogram obtained with solution (1) the area of any peak corresponding to 1-cyanoguanidine is not Greater than the area of the peak in the chromatogram obtained with solution (2) (0.02%).	0.0019%	0.0021%	0.0023%	0.0027%	0.0029%	0.0031%	0.003%	0.0037%
Assay: (By U.V.) Each film coated tablet contains: Metformin Hydrochloride BP 850mg	NLT 95.0% and NMT 105.0% of labelled amount (Between 807.5mg to 892.5mg)	99.96% (849.66 mg)	99.87% (848.89 mg)	99.66% (847.11 mg)	99.58% (846.43 mg)	99.39% (844.82 mg)	99.21% (843.29 mg)	99.19% (843.12 mg)	98.21% (834.79 mg)
	Date of analysis	15/03/08	16/06/08	14/09/08	15/12/08	15/03/09	14/09/09	15/03/10	15/03/11

Remarks: The product is found to be stable for 36 Months at 30°C±2°C & RH 65%±5% and hence the calculated shelf life of 36 Months is given to the product.

Date: 15/03/2011
AUTHORIZED SIGNATORY
DR. AMITA KARNIK
DIRECTOR TECHNICAL

EVALUACION Y ANALISIS DE LOS RESULTADOS

De acuerdo a los resultados obtenidos en el estudio de estabilidad Acelerado en condiciones de temperatura y humedad de 40ºC ± 2ºC Y 75% ± 5% H; y estudio de estabilidad a Tiempo real en condiciones de 30°C ± 2°C y 65% ± 5% HR, para los Lotes 5848001, 5848002 y 5848003; se puede verificar que los lotes estudiados no muestran deterioro físico o químico en el envase estudiado. No se evidencia una disminución significativa en la valoración del activo y los parámetros analizados se mantuvieron dentro de los límites especificados.

1. Conclusiones

Basado en los datos adquiridos de los estudios de estabilidad a tiempo real y acelerado, se concluye que el producto ***METFORMINA CLORHIDRATO COMPRIMIDOS 850 mg*** es estable por un periodo de 36 meses almacenado en su envase original y a una temperatura no mayor a 30º C, protegido de la humedad y la luz.

Se propone periodo de eficacia para ***METFORMINA CLORHIDRATO COMPRIMIDOS 850 mg*** de 36 meses a partir de su fecha de fabricación.