



**JANSSEN PHARMACEUTICA N.V.**  
**CERTIFICATE OF ANALYSIS**

PRODUCT	: BUPRENORPHINE	(N*)
PRODUCT CODE	: 00117435	MANUFACTURING DATE : 13-Jan-2010
BATCH:	: ZR371605PUA34	RETEST DATE : 13-Jan-2013
QUANTITY	: 44027 g	PRODUCTION SITE : GEEL

<u>TEST ITEMS</u>	<u>SPECIFICATIONS</u>	<u>RESULTS</u>	<u>UNITS</u>
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Appearance	A white or almost white crystalline powder.	Pass	
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IR absorption spectrum	Complies with reference spectrum	Pass	
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HPLC purity

	<u>specifications</u>	<u>content</u>	
Norbuprenorphine (= R314055)	<=0.20 % (w/w)	<0.05 % (w/w)	
N-methyl-nor- buprenorphine (= R314053)	<=0.10 % (w/w)	<0.05 % (w/w)	
6-O-desmethyl- buprenorphine (= R314050)	<=0.10 % (w/w)	<0.05 % (w/w)	
5,19-anhydro analog impurity (= R313514)	<=0.10 % (w/w)	<0.05 % (w/w)	
3-O-methyl-N-cyano-nor-buprenorphine (= R314047)	<=0.10 % (w/w)	<0.05 % (w/w)	
N-but-3-enyl-nor- buprenorphine (= R314052)	<=0.20 % (w/w)	0.05 % (w/w)	
3-O-methyl- buprenorphine (= T002713)	<=0.10 % (w/w)	<0.05 % (w/w)	

	individual unspecified impurities	<= 0.10 %	Pass	
HPLC purity	15, 16-dehydro- buprenorphine and/or 17, 18-dehydro-buprenorphine	<=0.10	<0.05	% (w/w)
HPLC purity	total impurities (HPLC 1 & HPLC 2)	<=0.7	0.0	% (w/w)
Appearance of solution	decision clarity	Clear	Pass	
	decision color	Colorless	Pass	
Loss on drying		<=0.5	0.01	% (w/w)
Specific optical rotation	result calculated on the dry basis	-107 to -103	-105.0	°



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QUANTITY	: 44027 g	PRODUCTION SITE : GEEL

<u>TEST ITEMS</u>		<u>SPECIFICATIONS</u>	<u>RESULTS</u>	<u>UNITS</u>
Base titration	assay on the dry basis	98.5 to 101.5	100.4	% (w/w)

**IMPORTANT INFORMATION**

The product remains within the approved specifications during the retest period, when stored in the proposed container and closures. For climatic zone 3 and 4 a periodic re-evaluation is required.

This batch has been manufactured in accordance with the GMP requirements and complies with the requirements in the Specification Report 36\_PAS-SPR-DS-R371605-GLO (1.0) and conform with the PH.EUR.

This certificate of analysis has been issued on 19-Mar-2010 and can only be used for regulatory purposes.

The release of this certificate is under supervision of the quality department of Janssen Pharmaceutica NV.

In case additional quality related information is needed please call : Tel.: +32(0)14/604109 or Fax: +32(0)14/604303

31 MAR 2010



## JANSSEN PHARMACEUTICA N.V.

### CERTIFICATE OF ANALYSIS

PRODUCT	: BUPRENORPHINE	(N*)	
PRODUCT CODE	: 00117435	MANUFACTURING DATE	: 15-Jan-2010
BATCH	: ZR371605PUA35	RETEST DATE	: 15-Jan-2013
QUANTITY	: 59068 g	PRODUCTION SITE	: GEEL

**TEST ITEMS****SPECIFICATIONS****RESULTS****UNITS**

Appearance

A white or almost white crystalline powder.

Pass

IR absorption spectrum

Complies with reference spectrum

Pass

## HPLC purity

	<u>specifications</u>	<u>content</u>
Norbuprenorphine (= R314055)	<=0.20 % (w/w)	<0.05 % (w/w)
N-methyl-nor- buprenorphine (= R314053)	<=0.10 % (w/w)	<0.05 % (w/w)
6-O-desmethyl- buprenorphine (= R314050)	<=0.10 % (w/w)	<0.05 % (w/w)
5,19-anhydro analog impurity (= R313514)	<=0.10 % (w/w)	<0.05 % (w/w)
3-O-methyl-N-cyano-nor-buprenorphine (= R314047)	<=0.10 % (w/w)	<0.05 % (w/w)
N-but-3-enyl-nor- buprenorphine (= R314052)	<=0.20 % (w/w)	<0.05 % (w/w)
3-O-methyl- buprenorphine (= T002713)	<=0.10 % (w/w)	<0.05 % (w/w)

individual unspecified impurities

&lt;= 0.10 %

Pass

HPLC purity

15, 16-dehydro- buprenorphine and/or 17, 18-dehydro-buprenorphine

&lt;=0.10

&lt;0.05

% (w/w)

HPLC purity

total impurities (HPLC 1 &amp; HPLC 2)

&lt;=0.7

0.0

% (w/w)

Appearance of solution

decision clarity

Clear

Pass

decision color

Colorless

Pass

Loss on drying

&lt;=0.5

0.01

% (w/w)

Specific optical rotation

result calculated on the dry basis

-107 to -103

-105.1

°



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QUANTITY	: 59068 g	PRODUCTION SITE	: GEEL

<u>TEST ITEMS</u>		<u>SPECIFICATIONS</u>	<u>RESULTS</u>	<u>UNITS</u>
Base titration	assay on the dry basis	98.5 to 101.5	100.3	% (w/w)

**IMPORTANT INFORMATION**

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 31 MAR 2010



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### CERTIFICATE OF ANALYSIS

PRODUCT	: BUPRENORPHINE	(N*)	
PRODUCT CODE	: 00117435	MANUFACTURING DATE	: 18-Jan-2010
BATCH	: ZR371605PUA36	RETEST DATE	: 18-Jan-2013
QUANTITY	: 56866 g	PRODUCTION SITE	: GEEL

<u>TEST ITEMS</u>	<u>SPECIFICATIONS</u>	<u>RESULTS</u>	<u>UNITS</u>
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Appearance	A white or almost white crystalline powder.	Pass	
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IR absorption spectrum	Complies with reference spectrum	Pass	
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#### HPLC purity

	specifications	content		
Norbuprenorphine (= R314055)	<=0.20 % (w/w)	<0.05 % (w/w)		
N-methyl-nor- buprenorphine (= R314053)	<=0.10 % (w/w)	<0.05 % (w/w)		
6-O-desmethyl- buprenorphine (= R314050)	<=0.10 % (w/w)	<0.05 % (w/w)		
5,19-anhydro analog impurity (= R313514)	<=0.10 % (w/w)	<0.05 % (w/w)		
3-O-methyl-N-cyano-nor-buprenorphine (= R314047)	<=0.10 % (w/w)	<0.05 % (w/w)		
N-but-3-enyl-nor- buprenorphine (= R314052)	<=0.20 % (w/w)	0.05 % (w/w)		
3-O-methyl- buprenorphine (= T002713)	<=0.10 % (w/w)	<0.05 % (w/w)		
	individual unspecified impurities	<= 0.10 %	Pass	
HPLC purity	15, 16-dehydro- buprenorphine and/or 17, 18-dehydro-buprenorphine	<=0.10	<0.05	% (w/w)
HPLC purity	total impurities (HPLC 1 & HPLC 2)	<=0.7	0.0	% (w/w)
Appearance of solution	decision clarity	Clear	Pass	
	decision color	Colorless	Pass	
Loss on drying		<=0.5	0.02	% (w/w)
Specific optical rotation	result calculated on the dry basis	-107 to -103	-105.4	°



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BATCH	: ZR371605PUA36	RETEST DATE	: 18-Jan-2013
QUANTITY	: 56866 g	PRODUCTION SITE	: GEEL

<u>TEST ITEMS</u>		<u>SPECIFICATIONS</u>	<u>RESULTS</u>	<u>UNITS</u>
Base titration	assay on the dry basis	98.5 to 101.5	100.4	% (w/w)

**IMPORTANT INFORMATION**

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