BENYLIN CHILDREN'S TICKLY COUGHS SYRUP
PL 00014/0645

UKPAR

TABLE OF CONTENTS

Lay Summary	Page 2
Scientific discussion	Page 3
Steps taken for assessment	Page 10
Steps taken after authorisation – summary	Page 11
Summary of Product Characteristics	Page 12
Patient Information Leaflet/Labelling	Page 16

BENYLIN CHILDREN'S TICKLY COUGHS SYRUP
PL 00014/0645

LAY SUMMARY

The MHRA granted The Boots Company Plc (trading as BCM) a Marketing Authorisation (licence) for the medicinal product Benylin Children's Tickly Coughs Syrup (PL 00014/0645). This product is available on the general sale list (GSL) for the relief of symptoms of dry, tickly coughs.

Benylin Children's Tickly Coughs Syrup contains the active ingredient glycerol which is a cough suppressant and mucolytic (an agent that destroys or dissolves mucus).

No new or unexpected safety concerns arose from this simple application and it was therefore judged that the benefits of taking Benylin Children's Tickly Coughs Syrup outweigh the risks, hence a Marketing Authorisation has been granted.

BENYLIN CHILDREN'S TICKLY COUGHS SYRUP
PL 00014/0645

SCIENTIFIC DISCUSSION

TABLE OF CONTENTS

Introduction	Page 4
Pharmaceutical assessment	Page 5
Preclinical assessment	Page 7
Clinical assessment	Page 8
Overall conclusion and risk benefit assessment	Page 9

INTRODUCTION

The UK granted a Marketing Authorisation for the medicinal product Benylin Children's Tickly Coughs Syrup to The Boots Company Plc (trading as BCM) on 21 June 2007. This product is available on the general sale list.

The application was submitted as a simple abridged application according to Article 10c of Directive 2001/83/EC as amended, referring to Benylin Children's Tickly Coughs Syrup (The Boots Company Plc) approved on 26 February 1997.

No new data were submitted nor were any necessary for this simple application since the data are identical to that of the previously granted reference product. As the reference product was granted prior to the introduction of current legislation, a Public Assessment Report (PAR) has not been generated for it.

The product contains the active ingredient glycerol which has demulcent properties and may possibly block sensory cough receptors in the respiratory tract.

PHARMACEUTICAL ASSESSMENT

COMPOSITION

The product is formulated as a syrup containing 0.75ml/5ml of the active pharmaceutical ingredient glycerol. The excipients present are maltitol liquid, hydroxyethylcellulose, sodium benzoate, citric acid monohydrate, sodium citrate, apple flavouring and purified water.

Benylin Children's Tickly Coughs Syrup is presented in either PET or glass amber bottles with polypropylene child resistant closures fitted with an expanded polyethylene line in 100ml, 125ml (glass only) and 150ml pack sizes.

DRUG SUBSTANCE

Glycerol

Synthesis of the drug substance from the designated starting material has been adequately described and appropriate in-process controls and intermediate specifications are applied. The applicant has confirmed that glycerol supplied from the drug substance manufacturer does not contain or come into contact with any animal derivatives at any stage in its manufacture. Satisfactory specifications are in place for all starting materials and reagents and these are supported by relevant certificates of analysis.

An appropriate specification based on the European Pharmacopoeia monograph is provided for glycerol.

Analytical methods have been validated and are satisfactory for ensuring compliance with the relevant specifications.

Batch analysis data are provided and comply with the proposed specification.

Glycerol is stored in appropriate packaging. Satisfactory specifications have been provided for the packaging components.

DRUG PRODUCT

Other ingredients

All excipients used in the manufacture of the syrup are routinely tested for compliance with current relevant international standards, with the exception of apple flavouring which complies with a satisfactory in-house specification.

No excipients used contain material of animal or human origin.

Manufacture

The proposed manufacturing process is consistent with the details registered for the reference product and the maximum batch size is stated.

Finished product specification
The proposed finished product specification is in line with the details registered for the reference product.

Stability
Finished product stability data support the proposed shelf-life of 3 years with storage conditions "Keep the bottle tightly closed. Do not store above 25°C."

Bioequivalence/bioavailability
A bioequivalence study was not required for this application.

SPC, PIL and Labels
The SPC and labels are pharmaceutically acceptable.

No patient information leaflet was provided as the applicant has included all relevant information on the container according to Article 58 of Directive 2001/83/EC.

CONCLUSION

It is recommended that a Marketing Authorisation should be granted for this application.

PRECLINICAL ASSESSMENT

No new preclinical data have been supplied with this application and none are required for an application of this type.

CLINICAL ASSESSMENT

As this is a duplicate application for Benylin Children's Tickly Coughs Syrup, no new clinical data have been supplied and none are required.

OVERALL CONCLUSION AND RISK BENEFIT ASSESSMENT

QUALITY

The data for this application are consistent with those previously assessed for the reference product and as such it has been judged to be satisfactory.

PRECLINICAL

No new preclinical data were submitted and none are required for an application of this type.

EFFICACY

This application is identical to the previously granted application for Benylin Children's Tickly Coughs Syrup in which the applicant provided clinical data.

No new or unexpected safety concerns arose from this application.

The SPC and PIL/labelling are satisfactory and consistent with that for the reference product.

RISK BENEFIT ASSESSMENT

The quality of the product is acceptable and no new preclinical or clinical safety concerns have been identified. The applicant's product has been shown to be identical to the reference product. Clinical experience with glycerol is considered to have demonstrated the therapeutic value of the compound. The risk benefit is, therefore, considered to be positive.

BENYLIN CHILDREN'S TICKLY COUGHS SYRUP
PL 00014/0645

STEPS TAKEN FOR ASSESSMENT

1 The MHRA received the Marketing Authorisation application on 09 June 2005.

2 Following standard checks and communication with the applicant, the MHRA considered the application valid on 20 July 2005.

3 Following assessment of the application, the MHRA requested further information relating to the quality dossier on 28 July 2005.

4 The applicant responded to the MHRA's requests, providing further information on 29 September 2006 and 06 March 2007 for the quality sections.

5 The application was determined on 21 June 2007.

BENYLIN CHILDREN'S TICKLY COUGHS SYRUP
PL 00014/0645

STEPS TAKEN AFTER AUTHORISATION – SUMMARY

Date submitted	Application type	Scope	Outcome

SUMMARY OF PRODUCT CHARACTERISTICS

1 NAME OF THE MEDICINAL PRODUCT

Benylin Children's Tickly Coughs Syrup or CalCough Tickly Syrup

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Active ingredient	% v/v	ml/5ml
Glycerol		0.75

For excipients see 6.1

3 PHARMACEUTICAL FORM

Syrup

A clear colourless syrup with an apple flavour.

4 CLINICAL PARTICULARS

4.1 Therapeutic indications

For the relief of dry tickly coughs.

4.2 Posology and method of administration

Oral use.

Children 3 months - 1 year: one 5ml spoonful three to four times a day.

Children 1 to 5 years: two 5ml spoonfuls three to four times a day.

Children under 3 months: not recommended.

4.3 Contraindications

Hypersensitivity to any of the ingredients.

Not recommended for children under 3 months.

Patients with rare hereditary problems of fructose intolerance should not take this medicine.

4.4 Special warnings and precautions for use

If symptoms persist for more than 3 days consult your doctor.

Keep all medicines out of the reach of children.

4.5 Interaction with other medicinal products and other forms of interaction

No clinically significant drug interactions.

4.6 Pregnancy and lactation

Not applicable.

4.7 Effects on ability to drive and use machines

No or negligible influence.

4.8 Undesirable effects

Maltitol may have a mild laxative effect.

4.9 Overdose

Overdosage with this product may possibly cause diarrhoea. Treatment should be symptomatic.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

The ATC code is R05FB01.

Glycerol has demulcent properties and may possibly block sensory cough receptors in the respiratory tract.

5.2 Pharmacokinetic properties

Glycerol is readily absorbed from the gastrointestinal tract and undergoes extensive metabolism principally in the liver. It may be used in the synthesis of lipids, and is metabolised to glucose or glycogen or oxidized to carbon dioxide and water. It may also be excreted in the urine unchanged.

5.3 Preclinical safety data

Not applicable

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Maltitol liquid (E965)

Hydroxyethylcellulose

Sodium benzoate

Citric acid monohydrate

Sodium citrate

Apple flavouring 5112OIE

Purified water

6.2 Incompatibilities

None stated

6.3 Shelf life

3 years

6.4 Special precautions for storage

Keep the bottle tightly closed.

Do not store above 25°C.

6.5 Nature and contents of container

1) Bottle amber PET with polypropylene child resistant closure fitted with expanded polythene liner.

   A spoon with a 5 ml and 2.5 ml measure is supplied with this pack.

   Pack size: 100 ml and 150 ml.

   Contained in a box board carton.

2) Bottle amber glass with polypropylene child resistant closure fitted with an expanded polyethylene liner.

   A spoon with a 5 ml and 2.5 ml measure is supplied with this pack.

   Pack size 100, 125ml or 150ml.

   Contained in a box board carton.

Not all pack sizes may be marketed.

6.6 Special precautions for disposal

Not applicable

7 MARKETING AUTHORISATION HOLDER

The Boots Company PLC

1 Thane Road West

Nottingham NG2 3AA

Trading as: BCM

8 MARKETING AUTHORISATION NUMBER(S)

PL 00014/0645

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

21/06/2007

10 DATE OF REVISION OF THE TEXT

September 2006

PATIENT INFORMATION LEAFLET/LABELLING