I. INTRODUCTION

Paracide 62, concentrate for dip emulsion is a concentrate for dip emulsion containing dimpylate (diazinon) 62% w/v used for the control of sheep scab, blowfly, ticks, keds and lice on sheep.

Prior to administration the product is diluted at a rate of one part of dip concentrate to 1500 parts of clean water for initial bath and at a rate of one part of dip concentrate to 1000 parts of clean water for all replenishments.

The product is produced and controlled using validated methods and tests which ensure the consistency of the product released on the market. The formulation uses well-established excipients in a simple formulation that is manufactured by a standard mixing process. It has been shown that the product can be safely used in the target species. The product is safe for the user, the consumer of foodstuffs from treated animals and for the environment, when used as recommended. Suitable warnings and precautions are indicated in the SPC. The overall risk/benefit analysis is in favour of granting a marketing authorisation.

II. QUALITY ASPECTS

Product Development and Composition

The product contains the active substance dimpylate (diazinon) and excipients include propylene oxide, liquid paraffin, polysorbate 80, castor oil polyoxyl, sorbitan trioleate.

A description of the development of the product is provided and all the ingredients have previously been used in Veterinary Medicinal Products in the UK.

The product is presented in 5 and 10 litre steel drums containing concentrate sheep dip for dilution with water. Each drum is sealed with a special non-removable cap that allows the product to be dispensed through a closed transfer (CT) System, the Animax Manual Pump. The product is an established pharmaceutical form and its development is adequately described in accordance with the relevant European guidelines.

Active Substance

The active substance is dimpylate (diazinon) as diazonin 90S. Diazinon 90S is a proprietary ingredient containing a minimum of 90 % w/w diazinon. It is prepared by the addition of epoxidised soybean oil and liquid paraffin. The active substance is manufactured in accordance with the principles of good manufacturing practice

The active substance specification is considered adequate to control the quality of the material. Batch analytical data demonstrating compliance with this specification have been provided.

Other Substances

All of the excipients except polypylene oxide used in the formulation are stated to comply with the latest version of the Ph. Eur. and specifications have been provided confirming this. For the non-pharmacopoeial ingredient, polypylene oxide, the applicant has provided the supplier's specification which includes appropriate tests and limits.

Packaging Materials

The product is packed in 5 litre and 10 litre steel drums similar to those currently approved for other products. Specifications are provided for the 5 litre and 10 litre steel drums and are considered acceptable.

Manufacture of the Finished Product

The product is manufactured fully in accordance with the principles of good manufacturing practice from a licensed manufacturing site.
Process validation data on the product have been presented in accordance with the relevant European guidelines.
There are no substances within the scope of the TSE Guideline present or used in the manufacture of this product.

Finished Product Quality Control

The finished product specification controls the relevant parameters for the pharmaceutical form. The tests in the specification, and their limits, have been justified and are considered appropriate to adequately control the quality of the product. The tests include appearance, emulsion and dilution, water content, identity diazinon and assay diazinon. Satisfactory validation data for the analytical methods have been provided. Batch analytical data from the proposed production site have been provided demonstrating compliance with the specification.

Stability of the Product

Active substance

The stability of diazinon has previously been assessed which recommends that a retest period of 36 months is applied to Diazinon 90S.

Finished Product

The company provided stability data on three batches. Samples were examined using the tests described in the finished product specification for appearance, emulsion and dilution, water content, diazinon content and specified impurities. Tests demonstrated that the product still meets the agreed specification after 2 years.

In-Use

Diluted solution – 1 day
The dip wash must be discarded and disposed of safely at the end of the day.

CONCLUSIONS ON QUALITY

The supporting data submitted by the company demonstrate that the product is suitably formulated and quality-controlled. A shelf-life of 2 years is justified, subject to the following storage warnings:

Store in tightly closed original container.
Do not store above 25°C.
Keep in a store designed for the storage of approved pesticides.
Store away from food, drink and animal feedstuffs.

III. SAFETY ASPECTS

Introduction

This application is for an “extension” to the existing MA for Paracide Plus 16 % w/w concentrate for Dip Solution, to increase the concentration of the active substance, dimpylate (diazinon), from 16 % to 62 %. The pharmacology and toxicology were addressed during assessment of the original application.

Residues

A residue depletion study in sheep using the new formulation Paracide 62 was carried out. Sheep were randomly allocated to different group. Sheep were plunge dipped once in dip constituted with either the test or reference item. The volume of the dip bath contents was adjusted. Sheep were immersed for definite time period with the head being plunged under the water at least twice. Samples of the dip bath were collected prior to dipping and after dipping. Animals were observed daily for signs of general health. The study concluded that the dips containing the test item Paracide 62 and the reference item were effective against *P.ovis* for a period of 56.8 days.

Environmental Safety

An environmental risk assessment has been provided, which addresses any potential change in environmental risk as a consequence of the reformulation. The environmental warnings and disposal advice presented on the product literature and SPC is considered satisfactory.

Conclusions on User Safety

The applicant has provided a user safety assessment in compliance with the relevant guideline. Warnings and precautions as listed on the product literature are adequate to ensure safety to users of the product.

Conclusions on Consumer Safety

The following information is included on the product literature and SPC and is considered acceptable.

Withdrawal period:
Meat and offal: 70 days
Do not treat sheep producing milk for human consumption.

IV. CLINICAL ASPECTS

This application is for an “extension” to the existing MA for Paracide Plus 16 % w/w concentrate for Dip Solution, to increase the concentration of the active substance, dimpylate (diazinon), from 16 % to 62 %.

The applicant has provided an unpublished paper to support the claim that a maintenance level of 100 mg/l diazonin in the dipwash provides efficacy against *P.ovis.* A study was conducted to compare the depletion of diazinon in dip filled with the test product with the depletion in dip filled with the reference product. The animals were divided into different group and each group was divided into subgroups. No adverse events were recorded. The study concluded that the active ingredient of the test product was depleted by 71.01 % after dipping sheep and replenishing at 1.5x the original concentration. The active ingredient of the reference product was depleted by 67.77 %. Loss of volume from the dipwash was 12.8 % greater for test material than the reference product.

Another study was conducted to compare the depletion of diazinon concentrations in fleece following routine application of test product with depletion following routine application of the reference product. Sheep were randomly allocated to different group. No adverse events or abnormalities during health examinations were observed during the study. The study concluded that the dips containing the test product and the reference product were effective against P.Ovis for a period of 56.8 days.

Tolerance in the Target Species

The applicant advises that the level of diazinon deposited in the fleece has been demonstrated to be the same for the 16 and 62% formulations. As the active ingredient is presented to the sheep dissolved in the lanolin in the fleece, the method of exposure is the same. The residue depletion study also confirms that systemic absorption is inline with the 16% formulation. No additional risk of toxicity can occur.

Resistance

The applicant states that there have been no reported failures of plunge dipping in diazinon to control sheep scab.

Clinical Efficacy

No data is submitted as the bioavailability of diazinon in the fleece after dipping with the 62% formulation is comparable to that of the 16% formulation and efficacious concentrations are reached.

PART V. OVERALL CONCLUSION ON THE PRODUCT

The data submitted in the dossier demonstrate that when the product is used in accordance with the Summary of Product Characteristics, the benefit-risk profile for the target species is favourable and the quality and safety of the product for humans and the environment is acceptable.

POST-AUTHORISATION ASSESSMENTS

The SPC and package leaflet may be updated to include new information on the quality, safety and efficacy of the veterinary medicinal product. The current SPC is available on the Product Information Database of the Veterinary Medicines Directorate website.

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The post-authorisation assessment (PAA) contains information on significant changes which have been made after the original procedure which are important for the quality, safety or efficacy of the product.

The PAA for this product is available on the Product Information Database of the Veterinary Medicines Directorate website.

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