ANNEX I

SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

ZOLVIX 25 mg/ml oral solution for sheep

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Active substance:
Each ml contains 25 mg of monepantel

Excipient:
RRR-α-tocopherol

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Oral solution.
Orange clear solution.

4. CLINICAL PARTICULARS

4.1 Target species

Sheep

4.2 Indications for use, specifying the target species

ZOLVIX oral solution is a broad spectrum anthelmintic for the treatment and control of gastro-intestinal nematode infections and associated diseases in sheep including lambs, hoggets, breeding rams and ewes.
Spectrum of activity includes fourth larvae and adults of:

*Haemonchus contortus**
*Teladorsagia circumcincta**
*Teladorsagia trifurcata**
*Teladorsagia davtiani**
*Trichostrongylus axei**
Trichostrongylus colubriformis
Trichostrongylus vitrinus
Cooperia curticei
Cooperia oncophora
Nematodirus battus
Nematodirus filicollis
Nematodirus spathiger
Chabertia ovina
Oesophagostomum venulosum

* including inhibited larvae

4.3 Contraindications

None.

4.4 Special warnings for each target species

The efficacy has not been established in sheep weighing less than 10 kg.

Care should be taken to avoid the following practices because they increase the risk of development of resistance and could ultimately result in ineffective therapy:

- Too frequent and repeated use of anthelmintics from the same class, over an extended period of time. It is recommended that product is used not more than twice in one year.
- Underdose, which may be due to underestimation of body weight, misadministration of the veterinary medicinal product, or lack of calibration of the dose device.

In order to help delay the development of resistance, users are advised to check the success of the treatment (e.g. clinical appearance, faecal egg counts). Suspected clinical cases of resistance to anthelmintics should be further investigated using appropriate tests (e.g. Faecal Egg Count Reduction Tests) in discussion with their animal health advisor. Where the results of the tests strongly suggest resistance to a particular anthelmintic, an anthelmintic belonging to another pharmacological class and having a different mode of action should be used.

Increasing refugia (i.e. a source of parasites which have not been exposed to the anthelmintic) has been demonstrated to delay the development of resistance. However, this should be considered only after advice has been taken from an animal health advisor.

4.5 Special precautions for use

Special precautions for use in animals

The safety has not been established in sheep weighing less than 10 kg or under 2 weeks of age.

Special precautions to be taken by the person administering the veterinary medicinal product to animals

Personal protective equipment consisting of gloves should be worn when handling the veterinary medicinal product.
In case of accidental spillage onto skin or into eyes, wash immediately with water. Take off any contaminated clothes. In case of accidental ingestion seek medical advice immediately and show the package leaflet or the label to the physician.
Do not eat, drink or smoke whilst handling the veterinary medicinal product. Wash hands and exposed skin after handling the veterinary medicinal product.

4.6 Adverse reactions (frequency and seriousness)

None.

4.7 Use during pregnancy, lactation or lay

The veterinary medicinal product can be used in breeding sheep including pregnant and lactating ewes.

4.8 Interaction with other medicinal products and other forms of interaction

None known.

4.9 Amounts to be administered and administration route

The dose is 2.5 mg/kg bodyweight of monepantel.
The veterinary medicinal product is administered as a single treatment.
However, the administration may be repeated, depending on the epidemiological situation in different areas.

To ensure administration of a correct dose, bodyweight should be determined as accurately as possible.
Accuracy and proper functioning of the dose device should be checked.
If animals are to be treated collectively rather than individually, they should be grouped according to their bodyweight and dosed according to the heaviest animal within the group in order to avoid underdose.
To assure complete swallowing of this low volume solution, administer orally on the back of the tongue. Drenching equipment should be cleaned after use.

Dose table:

Body weight, kg	Dose, ml
10 – 15	1.5
16 – 20	2
21 – 25	2.5
26 – 30	3
31 – 35	3.5
36 – 40	4
41 – 50	5
51 – 60	6
61 – 70	7
> **70**	1 ml for each additional 10 kg

4.10 Overdose (symptoms, emergency procedures, antidotes), if necessary

No adverse effects were observed after a 10-fold overdose.

4.11 Withdrawal period(s)

7 days.
Not authorised for use in animals producing milk for human consumption.

5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: anthelmintics.
ATCvet code: QP52AX09.

5.1 Pharmacodynamic properties

Monepantel is an anthelmintic belonging to the amino-acetonitrile derivative (AAD) class of molecules. Monepantel acts on the nematode specific nicotinic acetylcholine receptor sub-unit Hco-MPTL-1. This is the first biological function to be described for the Hco-MPTL-1 receptor and therefore monepantel is effective against nematodes resistant to other anthelmintic classes.

ZOLVIX was shown to be effective against strains of gastro-intestinal parasites, listed in section 4.2, resistant to (pro)benzimidazoles, levamisole, morantel, macrocyclic lactones and *H. contortus* strains resistant to salicylanilides. In addition, the product was shown to be effective against 4th stage larvae of a strain of *H. contortus* in a laboratory study where a combination of abamectin with derquantel was not effective.

Isolated cases of resistance against monepantel have been identified within the European Union.

5.2 Pharmacokinetic particulars

After oral administration monepantel is readily absorbed and oxidised to a sulfone metabolite. Peak blood concentrations are reached within a day. Afterwards blood concentrations decrease with a half life of about five days. Excretion is mainly via the faeces but also via the urine. Feeding or fasting before or shortly after treatment does not influence efficacy.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

RRR-α-tocopherol
Beta-carotene
Maize oil
Propylene glycol
Macrogolglycerol hydroxystearate
Polysorbate 80
Propylene glycol monocaprylate
Propylene glycol dicaprylocaprate

6.2 Major incompatibilities

In the absence of compatibility studies, this veterinary medicinal product must not be mixed with other veterinary medicinal products.

6.3 Shelf life

Shelf life of the veterinary medicinal product as packaged for sale:
Bottle (HDPE): 3 years

Shelf life after first opening the immediate packaging: 1 year

6.4 Special precautions for storage

This veterinary medicinal product does not require any special storage conditions.

6.5 Nature and composition of immediate packaging

Fluorinated high density polyethylene (HDPE) bottles with a polypropylene cap.

Pack sizes of 250 ml, 500 ml, 1 l, 2.5 l, and 5 l.

Not all pack sizes may be marketed.

6.6 Special precautions for the disposal of unused veterinary medicinal product or waste materials derived from the use of such products

Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal products should be disposed of in accordance with local requirements.

7. MARKETING AUTHORISATION HOLDER

Elanco GmbH
Heinz-Lohmann-Str. 4
27472 Cuxhaven
Germany

8. MARKETING AUTHORISATION NUMBER(S)

EU/2/09/101/002
EU/2/09/101/004
EU/2/09/101/006
EU/2/09/101/008
EU/2/09/101/010

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 04/11/2009
Date of last renewal: 07/11/2014

10. DATE OF REVISION OF THE TEXT

{MM/YYYY}

Detailed information on this veterinary medicinal product is available on the website of the European Medicines Agency http://www.ema.europa.eu/.

PROHIBITION OF SALE, SUPPLY AND/OR USE

Not applicable.

ANNEX II

A. MANUFACTURER RESPONSIBLE FOR BATCH RELEASE

B. CONDITIONS OR RESTRICTIONS REGARDING SUPPLY AND USE

C. STATEMENT OF THE MRLs

A. MANUFACTURER RESPONSIBLE FOR BATCH RELEASE

Name and address of the manufacturer responsible for batch release

Elanco France S.A.S
26 Rue de la Chapelle
F-68330 Huningue

B. CONDITIONS OR RESTRICTIONS REGARDING SUPPLY OR USE

Veterinary medicinal product subject to prescription.

C. STATEMENT OF THE MRLs

The active substance in ZOLVIX is an allowed substance as described in table 1 of the annex to Commission Regulation (EU) No 37/2010:

Pharmacologically active substance(s)	Marker residue	Animal species	MRLs	Target tissues	Other provisions	Therapeutic classification
Monepantel	Monepantel-sulfone	Ovine, caprine	700 µg/kg 7000 µg/kg 5000 µg/kg 2000 µg/kg 170 µg/kg	Muscle Fat Liver Kidney Milk		Antiparasitic agents/ Agents acting against endoparasites

The excipients listed in section 6.1 of the SPC are either allowed substances for which table 1 of the annex to Commission Regulation (EU) No 37/2010 indicates that no MRLs are required or are considered as not falling within the scope of Regulation (EC) No 470/2009 when used as in this product.

ANNEX III

LABELLING AND PACKAGE LEAFLET

A. LABELLING

PARTICULARS TO APPEAR ON THE OUTER PACKAGE AND IMMEDIATE PACKAGE

Cardboard box and HDPE bottle

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

ZOLVIX 25 mg/ml oral solution for sheep
Monepantel

2. STATEMENT OF ACTIVE SUBSTANCES

Each ml contains 25 mg of monepantel

3. PHARMACEUTICAL FORM

Oral solution

4. PACKAGE SIZE

250 ml
500 ml
1 l
2.5 l
5 l

5. TARGET SPECIES

Sheep

6. INDICATION(S)

7. METHOD AND ROUTE(S) OF ADMINISTRATION

Read the package leaflet before use.

8. WITHDRAWAL PERIOD(S)

Withdrawal period(s): 7 days.
Not authorised for use in animals producing milk for human consumption.

9. SPECIAL WARNING(S), IF NECESSARY

Read the package leaflet before use.

10. EXPIRY DATE

EXP {month/year}
Once opened use within 1 year.

11. SPECIAL STORAGE CONDITIONS

12. SPECIAL PRECAUTIONS FOR THE DISPOSAL OF UNUSED PRODUCTS OR WASTE MATERIALS, IF ANY

Disposal: read the package leaflet.

13. THE WORDS "FOR ANIMAL TREATMENT ONLY" AND CONDITIONS OR RESTRICTIONS REGARDING SUPPLY AND USE, IF APPLICABLE

For animal treatment only. To be supplied only on veterinary prescription.

14. THE WORDS "KEEP OUT OF THE SIGHT AND REACH OF CHILDREN"

Keep out of the sight and reach of children.

15. NAME AND ADDRESS OF THE MARKETING AUTHORISATION HOLDER

Elanco GmbH
Heinz-Lohmann-Str. 4
27472 Cuxhaven
Germany

16. MARKETING AUTHORISATION NUMBER(S)

EU/2/09/101/002
EU/2/09/101/004
EU/2/09/101/006
EU/2/09/101/008
EU/2/09/101/010

17. MANUFACTURER'S BATCH NUMBER

Lot

B. PACKAGE LEAFLET

PACKAGE LEAFLET:
ZOLVIX 25 mg/ml oral solution for sheep

1. NAME AND ADDRESS OF THE MARKETING AUTHORISATION HOLDER AND OF THE MANUFACTURING AUTHORISATION HOLDER RESPONSIBLE FOR BATCH RELEASE, IF DIFFERENT

Marketing authorisation holder:
Elanco GmbH
Heinz-Lohmann-Str. 4
27472 Cuxhaven
Germany

Manufacturer responsible for batch release:
Elanco France S.A.S
26 Rue de la Chapelle
F-68330 Huningue
France

2. NAME OF THE VETERINARY MEDICINAL PRODUCT

ZOLVIX 25 mg/ml oral solution for sheep
Monepantel

3. STATEMENT OF THE ACTIVE SUBSTANCE(S) AND OTHER INGREDIENTS

Each ml of ZOLVIX orange clear oral solution contains 25 mg of monepantel

Other ingredients:
RRR-α-tocopherol
Beta-carotene
Maize oil
Propylene glycol
Macrogolglycerol hydroxystearate
Polysorbate 80
Propylene glycol monocaprylate
Propylene glycol dicaprylocaprate

4. INDICATION(S)

ZOLVIX oral solution is a broad spectrum anthelmintic for the treatment and control of gastro-intestinal nematode infections and associated diseases in sheep including lambs, hoggets, breeding rams and ewes.
Spectrum of activity includes fourth larvae and adults of:

*Haemonchus contortus**
*Teladorsagia circumcincta**
*T. trifurcata**
*T. davtiani**
*Trichostrongylus axei**
T. colubriformis
T. vitrinus
Cooperia curticei
C. oncophora
Nematodirus battus
N. filicollis
N. spathiger
Chabertia ovina
Oesophagostomum venulosum

*Including inhibited larvae

5. CONTRAINDICATIONS

None.

6. ADVERSE REACTIONS

None known.
If you notice any side effects, even those not already listed in this package leaflet or you think that the medicine has not worked, please inform your veterinary surgeon.

7. TARGET SPECIES

Sheep

8. DOSAGE FOR EACH SPECIES, ROUTE(S) AND METHOD OF ADMINISTRATION

Dose table

Bodyweight, kg	Dose, ml
10 – 15	1.5
16 – 20	2
21 – 25	2.5
26 – 30	3
31 – 35	3.5
36 – 40	4
41 – 50	5
51 – 60	6
61 – 70	7
> **70 kg**	1 ml for each additional 10 kg

Administer orally with a suitable dose device.

9. ADVICE ON CORRECT ADMINISTRATION

The dose rate is 2.5 mg/kg bodyweight of monepantel.
The veterinary medicinal product is administered as a single treatment. However, the administration may be repeated, depending on the epidemiological situation in different areas.
To ensure administration of a correct dose, bodyweight should be determined as accurately as possible. Accuracy and proper functioning of the dose device should be checked.

If animals are to be treated collectively rather than individually, they should be grouped according to their bodyweight and dosed according to the heaviest animal within the group, in order to avoid underdosage.
To assure complete swallowing of this low volume solution, administer orally on the back of the tongue. Drenching equipment should be cleaned after use.

10. WITHDRAWAL PERIOD(S)

7 days.
Not authorised for use in animals producing milk for human consumption.

11. SPECIAL STORAGE PRECAUTIONS

Keep out of the sight and reach of children.

Do not use this veterinary medicinal product after the expiry date which is stated on the label.
Shelf life after first opening the container: 1 year.

12. SPECIAL WARNING(S)

Special warnings for each target species:
The efficacy has not been established in sheep weighing less than 10 kg.
Care should be taken to avoid the following practices because they increase the risk of development of resistance and could ultimately result in ineffective therapy:

- Too frequent and repeated use of anthelmintics from the same class, over an extended period of time. It is recommended that product is used not more than twice in one year.
- Underdosage, which may be due to underestimation of body weight, misadministration of the product, or lack of calibration of the dose device.

In order to help delay the development of resistance, users are advised to check the success of the treatment (e.g. clinical appearance, faecal egg counts). Suspected clinical cases of resistance to anthelmintics should be further investigated using appropriate tests (e.g. Faecal Egg Count Reduction Tests) in discussion with their animal health advisor. Where the results of the test(s) strongly suggest resistance to a particular anthelmintic, an anthelmintic belonging to another pharmacological class and having a different mode of action should be used.

Increasing refugia (i.e. a source of parasites which have not been exposed to the anthelmintic) has been demonstrated to delay the development of resistance. However, this should be considered only after advice has been taken from an animal health advisor.

Special precautions for use in animals:
The safety has not been established in sheep weighing less than 10 kg or under 2 weeks of age.

Special precautions to be taken by the person administering the veterinary medicinal product to animals:
Personal protective equipment consisting of gloves should be worn when handling the veterinary medicinal product. In case of accidental spillage onto skin or into eyes, wash immediately with water. Take off any contaminated clothes. In case of accidental ingestion seek medical advice immediately and show the package leaflet or the label to the physician.
Do not eat, drink or smoke whilst handling the veterinary medicinal product. Wash hands and exposed skin after handling the veterinary medicinal product.

Pregnancy and lactation:
Can be used in breeding sheep including pregnant and lactating ewes.

Interaction with other medicinal products and other forms of interaction:
No interaction with other medicinal products and other forms of interaction are known.

Overdose (symptoms, emergency procedures, antidotes):
No adverse effects were observed after a 10-fold overdose.

Incompatibilities:
In the absence of compatibility studies, this veterinary medicinal product must not be mixed with other veterinary medicinal products.

13. SPECIAL PRECAUTIONS FOR THE DISPOSAL OF UNUSED PRODUCT OR WASTE MATERIALS, IF ANY

Medicines should not be disposed of via wastewater or household waste.
Ask your veterinary surgeon how to dispose of medicines no longer required. These measures should help to protect the environment.

14. DATE ON WHICH THE PACKAGE LEAFLET WAS LAST APPROVED

Detailed information on this veterinary medicinal product is available on the website of the European Medicines Agency http://www.ema.europa.eu/.

15. OTHER INFORMATION

Monepantel is an anthelmintic belonging to the amino-acetonitrile derivative (AAD) class of molecules.

ZOLVIX was shown to be effective against strains of gastro-intestinal parasites, listed in section 4, resistant to (pro)benzimidazoles, levamisole, morantel, macrocyclic lactones and *H. contortus* strains resistant to salicylanilides. In addition, the product was shown to be effective against 4th stage larvae of a strain of *H. contortus* in a laboratory study where a combination of abamectin with derquantel was not effective.

Isolated cases of resistance against monepantel have been identified within the European Union.

Pack sizes of 250 ml, 500 ml, 1 l, 2.5 l, and 5 l
Not all pack sizes may be marketed.

For any information about this veterinary medicinal product, please contact the marketing authorisation holder.