SUMMARY OF PRODUCT CHARACTERISTICS

1 NAME OF THE MEDICINAL PRODUCT
Testosterone Propionate 100 mg/2 ml Solution for Injection
Viormone (100 mg/2 ml)

2 QUALITATIVE AND QUANTITATIVE COMPOSITION
Testosterone propionate is an ester of the hormone testosterone. Each ml solution for injection contains 50 mg testosterone propionate corresponding to 41.86 mg testosterone.
Each ampoule contains 100 mg testosterone propionate in 2 ml solution.
For the list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM
Solution for injection.
Ampoules containing a sterile pale yellow solution of testosterone propionate in ethyl oleate.

4 CLINICAL PARTICULARS

4.1 Therapeutic indications
Testosterone replacement therapy for male hypogonadism, when testosterone deficiency has been confirmed by clinical features and biochemical tests.

4.2 Posology and method of administration
Posology
In general, the dose should be adjusted to the response of the individual patient.
Male Adults
Hypogonadism 50 mg 2-3 times weekly.
Delayed puberty and cryptorchidism 50 mg weekly.
Paediatric population
The safety and efficacy of testosterone propionate in children and adolescents has not been established. Pre-pubertal children should be treated with caution (see section 4.4).
Method of administration
For intramuscular use (see section 4.4).
4.3 **Contraindications**

- Hypersensitivity to the active substance, or to the excipient listed in section 6.1
- Known or suspected carcinoma of the prostate or of the male mammary gland (see section 4.4)
- Past or present liver tumours
- Pregnancy, breast feeding (see section 4.6)
- Nephrosis

4.4 **Special warnings and precautions for use**

**Medical examination and laboratory tests**

**Medical examinations**

Physicians should consider monitoring patients before the start of treatment, at quarterly intervals for the first 12 months and yearly thereafter for the following parameters:

- Digital rectal examination (DRE) of the prostate and PSA to exclude benign prostate hyperplasia or a sub-clinical prostate cancer (see section 4.3),
- Haematocrit and haemoglobin to exclude polycythaemia.

**Laboratory tests**

Testosterone level should be monitored at baseline and at regular intervals during treatment. Clinicians should adjust the dosage individually to ensure maintenance of eugonadal testosterone levels.

In patients receiving long-term androgen therapy, the following laboratory parameters should also be monitored regularly: haemoglobin, and haematocrit, liver function tests and lipid profile.

**Conditions that need supervision:**

Patients, especially the elderly, with the following conditions should be monitored:

**Tumours**

Mammary carcinoma, hypernephroma, bronchial carcinoma and skeletal metastases: In these patients hypercalcaemia or hypercalciuria may develop spontaneously, also during androgen therapy. The latter can be indicative of a positive tumour response to the hormonal treatment. Nevertheless, the hypercalcaemia or hypercalciuria should first be treated appropriately and after restoration of normal calcium levels, hormone therapy can be resumed.

Tumours of the liver have been reported occasionally in patients subjected to prolonged treatment with androgenic-anabolic steroids. The possibility that these compounds may induce or enhance the development of hepatic tumours cannot at present be excluded and this should be considered when the use of this product is proposed, especially in young people who are not suffering with life threatening disorders.

**Cardiac, hepatic or renal insufficiency; ischaemic heart disease**

In patients suffering from severe cardiac, hepatic, or renal insufficiency or ischaemic heart disease, treatment with testosterone may cause severe complications characterised by oedema with or without congestive cardiac failure. In such case, treatment must be stopped immediately.
Patients who have experienced myocardial infarction, cardiac-, hepatic- or renal
insufficiency or hypertension should be monitored due to the risk of deterioration of
or reoccurrence of disease. In such cases treatment must be stopped immediately.

**Hypertension**

Testosterone may cause a rise in blood pressure and testosterone propionate solution
for injection should be used with caution in men with hypertension. Androgens may
induce fluid and sodium retention.

**Clotting disorders**

Testosterone should be used with caution in patients with thrombophilia, as there
have been post-marketing studies and reports of thrombotic events in these patients
during testosterone therapy.

**Anti-coagulant therapy**

Androgens in general and testosterone esters can enhance the anti-coagulant action of
coumarin-type agents (see also section 4.5)

**Epilepsy or Migraine (or a history of these conditions)**

These conditions may be aggravated and should be monitored due to the risk of
deterioration of or reoccurrence.

**Sleep apnoea**

Caution should be applied when treating men with sleep apnoea. There have been
reports that testosterone esters can cause or exacerbate pre-existing sleep apnoea.
However, there is a lack of evidence regarding the safety of testosterone esters in men
with the condition. Good clinical judgment and caution should be employed in
patients with risk factors such as adiposity or chronic lung diseases.

**Diabetes mellitus**

Androgens in general and testosterone esters can improve glucose tolerance in
diabetic patients (see section 4.5).

**Adverse events**

If androgen-associated adverse reactions occur (see section 4.8), treatment with
testosterone propionate should be discontinued and, upon resolution of complaints,
resumed with a lower dose.

**Virilisation**

Patients should be informed about the potential occurrence of signs of virilisation. In
particular, singers and those with speech professions should be informed about the
risk of deepening of the voice. The voice changes may be irreversible.

If signs of virilisation develop, the risk/benefit ratio should be newly assessed with
the individual patient.

**Other conditions**

Androgens are not suitable for enhancing muscular development in healthy
individuals or for increasing physical ability.

Testosterone propionate should be permanently withdrawn if symptoms of excessive
androgen exposure persist or reappear during treatment with the recommended
dosage regimen. Certain clinical signs, such as irritability, nervousness, weight gain,
prolonged or frequent erections, may indicate excessive androgen exposure requiring
dosage adjustment.

**Paediatric population**
In pre-pubertal children statural growth and sexual development should be monitored since androgens in general in high dosages may accelerate epiphyseal closure and sexual maturation.

**Elderly population**

There is limited experience on the safety and efficacy of the use of testosterone propionate solution for injection in patients over 65 years of age. Currently, there is no consensus about age specific testosterone reference values. However, it should be taken into account that physiologically testosterone serum levels are lower with increasing age.

A reduced dosage may be advised in elderly male patients since hyperstimulation can occur.

**Application**

As with all oily solutions, testosterone propionate solution for injection must be injected strictly intramuscularly and very slowly (over two minutes). Pulmonary microembolism of oily solutions can in rare cases lead to signs and symptoms such as cough, dyspnoea, malaise, hyperhidrosis, chest pain, dizziness, paraesthesia, or syncope. These reactions may occur during or immediately after the injection and are reversible. The patient should therefore be observed during and immediately after each injection in order to allow for early recognition of possible signs and symptoms of pulmonary oily microembolism. Treatment is usually supportive, e.g. by administration of supplemental oxygen.

### 4.5 Interaction with other medicinal products and other forms of interaction

Enzyme-inducing agents may decrease and enzyme-inhibiting drugs may increase testosterone levels. Therefore, adjustment of the dose of testosterone propionate may be required.

**Insulin and other anti-diabetic medicines:** Androgens may improve glucose tolerance and decrease the need for insulin or other anti-diabetic medicines in diabetic patients (see section 4.4). Patients with diabetes mellitus should therefore be monitored especially at the beginning or end of treatment and at periodic intervals during testosterone propionate treatment.

**Anti-coagulant therapy:** High doses of androgens may enhance the anticoagulant action of coumarin type agents (see section 4.4). Therefore, close monitoring of prothrombin time and if necessary a dose reduction of the anti-coagulant is required during therapy.

**ACTH or Corticosteroids:** The concurrent administration of testosterone propionate with ACTH or corticosteroids may enhance oedema formation therefore these active substances should be administered cautiously, particularly in patients with cardiac or hepatic disease or in patients predisposed to oedema (see section 4.4).

**Laboratory test interactions:** Androgens may decrease levels of thyroxine-binding globulin, resulting in decreased total T4 serum levels and increased resin uptake of T3 and T4. Free thyroid hormone levels remain unchanged, and there is no clinical evidence of thyroid dysfunction.

### 4.6 Fertility, pregnancy and lactation

**Pregnancy and Breast-feeding**

Testosterone propionate is contraindicated in pregnancy and breast-feeding (see section 4.3).
Fertility
In men, treatment with androgens can lead to fertility disorders by repressing sperm-formation (see section 4.8).

4.7 Effects on ability to drive and use machines
Testosterone propionate has no or negligible influence on the ability to drive and use machines.

4.8 Undesirable effects
Due to the nature of this product, side effects cannot be quickly reversed by discontinuing medication.

Injectables in general may cause a local reaction at the injection site.

The following adverse reactions have been associated with androgen therapy in general.

The frequencies of adverse events are ranked according to the following: Very common \((\geq 1/10)\), common \((\geq 1/100, <1/10)\), uncommon \((\geq 1/1000, <1/100)\), rare \((\geq 1/10,000, <1/1000)\), very rare \(<1/10,000\) and not known (cannot be estimated from the available data).

<table>
<thead>
<tr>
<th>System Organ Class</th>
<th>Common ((\geq 1/100 \text{ to } &lt; 1/10))</th>
<th>Uncommon ((\geq 1/1000 \text{ to } &lt; 1/100))</th>
<th>Rare ((\geq 1/10,000 \text{ to } &lt; 1/1,000))</th>
<th>Not known (cannot be estimated from the available data)</th>
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</thead>
<tbody>
<tr>
<td>Neoplasms benign, malignant and unspecified (incl. cysts and polyps)</td>
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<td>Prostatic cancer(^1)</td>
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<td>Blood and lymphatic system disorders</td>
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<td></td>
<td>Polycythaemia</td>
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<td>Immune System Disorders</td>
<td>Hypersensitivity</td>
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<td>Metabolism and nutrition disorders</td>
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<td>Fluid retention</td>
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<tr>
<td>Psychiatric disorders</td>
<td>Aggression</td>
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<td>Depression</td>
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<td></td>
<td>Nervousness</td>
<td>Mood altered</td>
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<td>Libido increased</td>
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<td>Libido decreased</td>
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<td>Vascular disorders</td>
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<td>Hypertension</td>
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<td>Gastrointestinal disorders</td>
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<td>Nausea</td>
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<td>Hepatobiliary disorders</td>
<td>Skin and subcutaneous tissue disorders</td>
<td>Musculoskeletal and connective tissue disorders</td>
<td>Reproductive system and breast disorders</td>
<td>Investigations</td>
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<td>Alopecia</td>
<td>Myalgia</td>
<td>Ejaculation disorder Gynaecomastia Oligospermia Priapism Benign prostatic hyperplasia²</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Lipids abnormal³ PSA increased</td>
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</tr>
</tbody>
</table>

1. Progression of a sub-clinical prostatic cancer
2. Prostatic growth (to eugonadal state)
3. Decrease in serum LDL-C, HDL-C and triglycerides

The terms used to describe the undesirable effects above are also meant to include synonyms and related terms.

**Paediatric population:**

The following undesirable effects have been reported in prepubertal children using androgens (see section 4.4): precocious sexual development, an increased frequency of erections, phallic enlargement and premature epiphyseal closure.

**Description of selected adverse reactions**

Pulmonary microembolism of oily solutions can in rare cases lead to signs and symptoms such as cough, dyspnoea, malaise, hyperhidrosis, chest pain, dizziness, paraesthesia, or syncpe. These reactions may occur during or immediately after the injections and are reversible. Cases suspected by the company or the reporter to represent oily pulmonary microembolism have been reported rarely in clinical trials (in ≥ 1/10,000 and < 1/1,000 injections) as well as from postmarketing experience (see section 4.4).

In addition to the above mentioned adverse reactions, hostility, sleep apnoea, various skin reactions including seborrhoea, increased hair growth, increased frequency of erections and in very rare cases jaundice have been reported under treatment with testosterone containing preparations.
Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the Yellow Card Scheme at: www.mhra.gov.uk/yellowcard or search for MHRA Yellow Card in the Google Play or Apple App Store.

4.9 Overdose
The acute toxicity of testosterone propionate is low.
If symptoms of chronic overdose occur (e.g. polycythaemia, priapism) treatment should be discontinued and after disappearance of the symptoms, be resumed at lower dosage.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties
Pharmacotherapeutic group: Androgens: ATC code G03B A03.

Treatment of hypogonadal men with testosterone esters results in a clinically significant rise of plasma concentrations of testosterone, dihydrotestosterone, estradiol and androstenedione, as well as decrease of SHBG (Sex hormone binding globulin). Luteinizing hormone (LH) and follicle-stimulating hormone (FSH) are restored to the normal range.

In hypogonadal men, treatment with testosterone esters results in an improvement of testosterone deficiency symptoms.

Moreover, treatment increases bone mineral density and lean body mass, and decreases body fat mass.

Treatment also improves sexual function, including libido and erectile function.

Treatment decreases serum LDL-C, HDL-C and triglycerides and increases haemoglobin and haematocrit, which may lead to polycythaemia.

No clinically relevant changes in liver enzymes and PSA have been reported.

Testosterone also produces systemic effects, such as increasing the retention of sodium, potassium and chloride leading to an increase in water retention.

Treatment may result in an increase in prostate size, and worsening of lower urinary tract symptoms, but no adverse effects on prostate symptoms have been observed.

In hypogonadal diabetic patients, improvement of insulin sensitivity and/or reduction in blood glucose have been reported with the use of androgens.

In boys with constitutional delay of growth and puberty, treatment with testosterone esters accelerates growth and induces development of secondary sex characteristics.

5.2 Pharmacokinetic properties
Testosterone Propionate when injected intramuscularly in oil is absorbed more slowly than the free steroid and is therefore more active.
5.3 **Preclinical safety data**
Preclinical data with androgens in general reveal no hazard for humans. The use of androgens in different species has been demonstrated to result in virilisation of the external genitals of female foetuses.

6 **PHARMACEUTICAL PARTICULARS**

6.1 **List of excipients**
Ethyl oleate

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

6.3 **Shelf life**
60 months.

6.4 **Special precautions for storage**
Protect from light.

6.5 **Nature and contents of container**
Each pack contains either 5 or 10 x 2 ml clear glass type I ampoules.

Each ampoule contains a sterile pale yellow solution of Testosterone Propionate BP in ethyl oleate (100 mg/2 ml).

Not all pack sizes may be marketed.

6.6 **Special precautions for disposal**
Any unused medicinal product or waste material should be disposed of in accordance with local requirements

7 **MARKETING AUTHORISATION HOLDER**
DHP Healthcare Limited
26 Pickering Street
Maidstone
Kent
ME15 9RS
8 MARKETING AUTHORISATION NUMBER(S)
PL 00111/0203

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION
1st October 2002

10 DATE OF REVISION OF THE TEXT
26/07/2018