

## **SUMMARY OF PRODUCT CHARACTERISTICS**

### **1. NAME OF THE MEDICINAL PRODUCT**

Nytamel 5 mg & 10 mg Film-coated Tablets.

### **2. QUALITATIVE AND QUANTITATIVE COMPOSITION**

Nytamel 5 mg tablet:

One film-coated tablet contains 5 mg zolpidem tartrate.

Excipient: 42.94 mg lactose/film-coated tablet.

Nytamel 10 mg tablet:

One film-coated tablet contains 10 mg zolpidem tartrate.

Excipient: 85.88 mg lactose/film-coated tablet.

For a full list of excipients, see section 6.1.

### **3. PHARMACEUTICAL FORM**

Film-coated tablet.

Nytamel 5 mg tablet: The tablet is white, oval, biconvex, film-coated, debossed with "ZIM" and "5" on one side.

Nytamel 10 mg tablet: The tablet is white, oval, biconvex, film-coated, scored on both sides and debossed with "ZIM" and "10" on one side. The tablet can be divided into equal halves.

### **4. CLINICAL PARTICULARS**

#### **4.1 Therapeutic indications**

Short term treatment of insomnia.

Benzodiazepines or benzodiazepine-like agents are only indicated when the disorder is severe, disabling or subjecting the individual to extreme distress.

#### **4.2 Posology and method of administration**

Treatment should be as short as possible. Generally the duration of treatment varies from a few days to two weeks with a maximum, including the tapering off process, of four weeks. The tapering off process should be tailored to the individual.

In certain cases extension beyond the maximum treatment period may be necessary; if so, it should not take place without re-evaluation of the patient's status.

The product should be taken with fluid just before going to bed.

#### **Adults**

The recommended daily dose for adults is 10 mg immediately before going to bed.

#### **Elderly**

In elderly or debilitated patients who may be especially sensitive to the effects of zolpidem a dose of 5 mg is recommended. This dose should only be increased to 10 mg where the clinical response is inadequate and the drug is well tolerated.

#### Patients with hepatic insufficiency

Patients with hepatic insufficiency who do not clear the drug as rapidly as normal individuals, a dose of 5 mg is recommended. This dose should only be increased to 10 mg where the clinical response is inadequate and the drug is well tolerated.

The total dose of zolpidem should not exceed 10 mg in any patient.

#### Children and adolescents under 18 years of age

Nytamel is contraindicated in children and adolescents under 18 years of age.

### **4.3 Contraindications**

Severe hepatic insufficiency.  
Hypersensitivity to zolpidem or to any of the excipients.  
Sleep apnoea syndrome.  
Myasthenia gravis.  
Severe respiratory insufficiency.  
Children and adolescents under 18 years of age.

### **4.4 Special warnings and precautions for use**

#### General

The cause of insomnia should be identified wherever possible. The underlying factors should be treated before a hypnotic is prescribed. The failure of insomnia to remit after a 7-14 day course of treatment may indicate the presence of a primary psychiatric or physical disorder, which should be evaluated.

General information relating to effects seen following administration of benzodiazepines or other hypnotic agents which should be taken into account by the prescribing physician are described below.

#### Tolerance

Some loss of efficacy to the hypnotic effects of short-acting benzodiazepines and benzodiazepine-like agents may develop after repeated use for a few weeks.

#### Dependence

Use of benzodiazepines or benzodiazepine-like agents may lead to the development of physical and psychological dependence of these products. The risk of dependence increases with dose and duration of treatment and is also greater in patients with a history of psychiatric disorders and/or alcohol or drug abuse.

Once physical dependence has developed, abrupt termination of treatment will be accompanied by withdrawal symptoms. These may consist of headaches or muscle pain, extreme anxiety and tension, restlessness, confusion and irritability.

In severe cases the following symptoms may occur: derealisation, depersonalisation, hyperacusis, numbness and tingling of the extremities, hypersensitivity to light, noise and physical contact, hallucinations or epileptic seizures.

#### Rebound insomnia

A transient syndrome whereby the symptoms that led to treatment with a benzodiazepine or benzodiazepine-like agent recur in an enhanced form, may occur on withdrawal of hypnotic agent. It may be accompanied by other reactions including mood changes, anxiety and restlessness.

It is important that the patient should be aware of the possibility of rebound phenomena, thereby minimising anxiety over such symptoms should they occur when the medicinal product is being discontinued.

There are indications that, in the case of benzodiazepines and benzodiazepine-like agents with a short duration of action, withdrawal phenomena can become manifest within the dosage interval, especially when the dosage is high.

As the risk of withdrawal symptoms/rebound phenomena are more likely to develop after abrupt discontinuation of treatment, it is recommended to decrease the dose gradually.

#### Duration of treatment

The duration of treatment should be as short as possible (see section 4.2), but should not exceed 4 weeks including the tapering off process. Extension beyond these periods should not take place without re-evaluation of the situation.

It may be useful to inform the patient when treatment is started that it will be of limited duration.

#### Amnesia

Benzodiazepines or benzodiazepine-like agents may induce anterograde amnesia. The condition usually occurs several hours after ingesting the product. In order to reduce the risk, patients should ensure that they will be able to have an uninterrupted sleep of 7-8 hours (see section 4.8).

#### Psychiatric and "paradoxical" reactions

When using benzodiazepines or benzodiazepine-like agents, reactions like restlessness, agitation, irritability, aggressiveness, delusion, rages, nightmares, hallucinations, psychoses, somnambulism, inappropriate behaviour, increased insomnia and other adverse behavioural effects are known to occur. Should this occur, use of the product should be discontinued. These reactions are more likely to occur in the elderly.

#### Specific patient groups

Elderly or debilitated patients should receive a lower dose: see recommended dosage (section 4.2). Due to the myorelaxant effect there is a risk of falls and consequently of hip fractures particularly for elderly patients when they get up at night.

#### Patients with renal insufficiency (see section 5.2)

Although dose adjustment is not necessary, caution should be exercised.

#### Patients with chronic respiratory insufficiency

Caution should be observed when prescribing zolpidem since benzodiazepines have been shown to impair respiratory drive. It should also be taken into consideration that anxiety or agitation have been described as signs of decompensated respiratory insufficiency.

#### Patients with severe hepatic insufficiency

Benzodiazepines and benzodiazepine-like agents are not indicated for the treatment of patients with severe hepatic insufficiency as they may precipitate encephalopathy.

#### Use in patients with psychotic illness

Benzodiazepines and benzodiazepine-like agents are not recommended for the primary treatment.

#### Use in depression

Despite the fact that relevant clinical, pharmacokinetic and pharmacodynamic interactions with SSRI have not been demonstrated, zolpidem should be administered with caution in patients exhibiting symptoms of depression. Suicidal tendencies may be present. Due to the possibility of intentional overdose by the patient, the lowest amount of drug that is feasible should be supplied to these patients.

Benzodiazepines and benzodiazepine-like agents should not be used alone to treat depression or anxiety associated with depression (suicide may be precipitated in such patients).

#### Use in patients with a history of drug or alcohol abuse

Benzodiazepines and benzodiazepine-like agents should be used with extreme caution in patients with a history of alcohol or drug abuse. These patients should be under careful surveillance when receiving zolpidem since they are at risk of habituation and psychological dependence.

Nytamel contains lactose. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicine.

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

Concomitant intake with alcohol is not recommended. The sedative effect may be enhanced when the product is used in combination with alcohol. This affects the ability to drive or use machines.

Caution should be exercised when zolpidem is used in combination with other CNS depressants (see section 4.4).

Enhancement of the central depressive effect may occur in cases of concomitant use with antipsychotics (neuroleptics), hypnotics, anxiolytics/sedatives, muscle relaxants, antidepressant agents, narcotic analgesics, antiepileptic drugs, anaesthetics and sedative antihistamines (see sections 4.8 and 5.1).

In the case of narcotic analgesics enhancement of euphoria may also occur leading to an increase in psychological dependence.

Zolpidem is metabolised by some enzymes of the cytochrome P450-family. The main enzyme is CYP3A4.

Rifampicin induces the metabolism of zolpidem, resulting in approximately 60 % reduction in peak plasma concentrations and possibly decreased efficacy. Similar effects might be expected also with other strong inducers of cytochrome P450-enzymes.

Compounds that inhibit hepatic enzymes (particularly CYP3A4) may increase plasma concentrations and enhance the activity of zolpidem. However, when zolpidem is administered with itraconazole (CYP3A4 inhibitor), the pharmacokinetic and pharmacodynamic effects are not significantly different. The clinical relevance of these results is unknown.

#### **4.6 Pregnancy and lactation**

There are insufficient data to permit an assessment of the safety of zolpidem during pregnancy and lactation. Although animal studies have shown no teratogenic or embryotoxic effects, safety in pregnancy has not been established in humans. Therefore zolpidem should not be used during pregnancy especially in the first trimester.

If the product is prescribed to a woman of childbearing potential, she should be warned to contact her physician regarding discontinuance of the product if she intends to become or suspect that she is pregnant.

If, for compelling medical reason, zolpidem is administered during the late phase of pregnancy, or during labour, effects on the neonate, such as hypothermia, hypotonia and moderate respiratory depression, can be expected due to the pharmacological action of the product.

Infants born to mothers who took benzodiazepines or benzodiazepine-like agents chronically during the latter stages of pregnancy may develop withdrawal symptoms in the postnatal period as a result of physical dependence.

Zolpidem passes into breast milk in minimal amounts. Zolpidem should therefore not be used during breast-feeding since effects on the infant are not studied.

#### **4.7 Effects on ability to drive and to use machines**

The ability to drive or to use machines may be adversely affected by sedation, amnesia, impaired concentration and impaired muscular function. If insufficient sleep duration occurs, the likelihood of impaired alertness may be increased (see section 4.5).

#### **4.8 Undesirable effects**

In this section frequencies of undesirable effects are defined as follows:

Very common ( $\geq 1/10$ ); common ( $\geq 1/100$  to  $< 1/10$ ); uncommon ( $\geq 1/1,000$  to  $< 1/100$ ); rare ( $\geq 1/10,000$  to  $< 1/1,000$ ); very rare ( $< 1/10,000$ ), not known (cannot be estimated from the available data).

These effects seem to be related with individual sensitivity and to appear more often within the hour following the drug intake if the patient does not go to bed or does not sleep immediately (see section 4.2).

#### Psychiatric disorders

*Uncommon:* Paradoxical reactions: Restlessness, agitation, irritability, aggressiveness, delusions, rage, nightmares, hallucinations, psychoses, somnambulism, inappropriate behaviour and other adverse behavioural effects (such reactions are more likely to occur in the elderly, see section 4.4), anterograde amnesia, which may be associated with inappropriate behaviour.

Pre-existing depression may become manifest during use of benzodiazepines or benzodiazepine-like agents (see section 4.4).

Use (even at therapeutic dosages) may lead to physical dependence: discontinuation of the therapy may result in withdrawal or rebound phenomena (see section 4.4).

Psychological dependence may occur. Abuse has been reported in polydrug abusers.

Decreased libido.

#### Nervous system disorders

*Common:* Drowsiness during the following day, numbed emotions, reduced alertness, confusion, fatigue, headache.

#### Eye disorders

*Common:* Double vision.

#### Ear and labyrinth disorders

*Common:* Vertigo, ataxia.

#### Gastrointestinal disorders

*Uncommon:* Gastrointestinal disturbances (diarrhoea, nausea, vomiting).

#### Skin and subcutaneous tissue disorders

*Uncommon:* Skin reactions.

#### Musculoskeletal connective tissue and bone disorders

*Common:* Muscle weakness.

### **4.9 Overdose**

In reports of overdose with zolpidem alone, impairment of consciousness has ranged from somnolence to light coma.

Individuals have fully recovered from overdoses up to 400 mg of zolpidem, 40 times the recommended dose.

General symptomatic and supportive measures should be used. Immediate gastric lavage should be used where appropriate. Intravenous fluids should be administered as needed. If there is no advantage in emptying the stomach, activated charcoal should be given to reduce absorption. Monitoring of respiratory and cardiovascular functions should be considered. Sedating drugs should be withheld even if excitation occurs.

Use of flumazenil may be considered when serious symptoms are observed. In the treatment of overdose with any medicinal product, it should be borne in mind that multiple agents may have been taken.

Due to the high distribution volume and protein binding of zolpidem, haemodialysis and forced diuresis are not effective measures. Hemodialysis studies in patients with renal failure receiving therapeutic doses have demonstrated that zolpidem is not dialyzable.

## 5. PHARMACOLOGICAL PROPERTIES

### 5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Hypnotics and sedatives, benzodiazepine related drugs  
ATC Code: N05C F02

Zolpidem, an imidazopyridine is a benzodiazepine-like hypnotic agent. In experimental studies it was shown that it has sedative effects at lower dosages than those required to exert anticonvulsant, myorelaxant or anxiolytic effects. These effects are related to a specific agonist action at central receptors belonging to the "GABA-omega" (BZ1 & BZ2) macromolecular receptor complex, modulating the opening of the chloride ion channel. Zolpidem acts primarily upon omega (BZ1) receptor subtypes. The clinical relevance of this is not known.

### 5.2 Pharmacokinetic properties

#### Absorption

Zolpidem has both a rapid absorption and onset of hypnotic effect. Bioavailability is 70% following oral administration. It demonstrates linear kinetics in the therapeutic dose range. The therapeutic plasma level is between 80 and 200 ng/ml. Peak plasma concentration is reached at between 0.5 and 3 hours after administration.

#### Distribution

The distribution volume in adults is 0.54 L/kg and decreases to 0.34 L/kg in the elderly. Protein binding amounts to 92%. First pass metabolism by the liver amounts to approximately 35%. Repeated administration has been shown not to modify protein binding indicating a lack of competition between zolpidem and its metabolites for binding sites.

#### Elimination

The elimination half-life is short, with a mean of 2.4 hours and a duration of action up to 6 hours. All metabolites are pharmacologically inactive and are eliminated in the urine (56%) and in the faeces (37%).

Zolpidem has been shown in trials to be non-dialysable.

#### Special populations

In patients with renal insufficiency, a moderate reduction in clearance is observed (independent of possible dialysis). The other pharmacokinetic parameters remain unaffected.

In elderly patients and in patients with hepatic insufficiency, the bioavailability of zolpidem is increased. Clearance is reduced and the elimination half-life is prolonged (approximately 10 hours).

In patients with liver cirrhosis a 5-fold increase in AUC and a 3-fold increase in half-life was observed.

### 5.3 Preclinical safety data

Preclinical effects were only observed at dosages well above the maximum human exposure levels and are therefore of little significance for clinical use.

## 6. PHARMACEUTICAL PARTICULARS

### 6.1 List of excipients

#### Tablet core

Lactose monohydrate

Microcrystalline cellulose

Type A sodium starch glycolate

Magnesium stearate

Hypromellose

Coating  
Hypromellose  
Titanium dioxide (E171)  
Macrogol 400

## **6.2 Incompatibilities**

Not applicable.

## **6.3 Shelf life**

3 years.

## **6.4 Special precautions for storage**

Store in the original package.

## **6.5 Nature and contents of container**

The film-coated tablets are packed in:

- PVC/PE/PVDC/Al blisters in carton boxes.
- HDPE tablet containers sealed with a child-proof PP closure.
  
- Nytamel film-coated tablets are available in:  
cartons containing 4, 5, 7, 10, 14, 15, 20, 25, 28, 30, 40, 50, 60, 70, 80, 90, 100, 150 or 500  
tablets packed in blisters.
- tablet containers containing 30, 100 or 500 tablets, sealed with a childproof closure.

Not all pack sizes may be marketed.

## **6.6 Special precautions for disposal of a used medicinal product or waste materials derived from such medicinal product and other handling of the product**

No special requirements.

## **7. MARKETING AUTHORISATION HOLDER**

Clonmel Healthcare Ltd  
Waterford Road  
Clonmel  
Co. Tipperary  
Ireland

## **8. MARKETING AUTHORISATION NUMBER(S)**

Nytamel 5 mg tablet: PA 126/117/1  
Nytamel 10 mg tablet: PA 126/117/2

## **9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**

Date of first authorisation: 22<sup>nd</sup> March 2002  
Date of last renewal: 26<sup>th</sup> July 2006

**10. DATE OF REVISION OF THE TEXT**

September 2007