

# Summary of Product Characteristics

## 1 NAME OF THE MEDICINAL PRODUCT

Nu-seals 75 mg Gastro-resistant Tablets

## 2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each tablet contains:

Aspirin (Acetylsalicylic acid) 75mg.

For a full list of excipients, see section 6.1.

## 3 PHARMACEUTICAL FORM

Gastro-resistant tablets

*Product imported from UK:*

Smooth, white tablets printed with '75' in red.

## 4 CLINICAL PARTICULARS

### 4.1 Therapeutic Indications

Aspirin has an antithrombotic action, mediated through inhibition of platelet activation, which has been shown to be useful in secondary prophylaxis following myocardial infarction, and in patients with unstable angina or ischaemic stroke.

Nu-Seals 75 is indicated wherever prolonged dosage of aspirin is required. The special coating resists dissolution in gastric juice, but will dissolve readily in the relatively less acid environment of the duodenum. Owing to the delay that the coating imposes on the release of the active ingredient, Nu-Seals 75 is unsuitable for the short-term relief of pain.

### 4.2 Posology and method of administration

Nu-Seals 75 is for oral administration to adults only.

Antithrombotic action: The usual dose is 75mg, daily. When rapid absorption is required (e.g., following acute myocardial infarction), two tablets (150mg) should be taken together and chewed.

The elderly: As for adults.

In general, aspirin should be used with particular caution in elderly patients who are more prone to adverse events. Undesirable effects may be minimised by using the lowest effective dose for the shortest duration necessary to control symptoms (see section 4.4). Treatment should be reviewed at regular intervals.

Children: do not give to children and adolescents aged under 16 years, except on medical advice, where the benefit outweighs the risk (see section 4.4).

### 4.3 Contraindications

Hypersensitivity to aspirin (e.g.- bronchospasm, rhinitis, urticaria) or to non-steroidal anti-inflammatory drugs. Hypoprothrombinaemia, haemophilia, cerebral haemorrhage and active peptic ulceration.

History of gastrointestinal bleeding or perforation, related to previous NSAIDs therapy. Active, or history of recurrent peptic ulcer/haemorrhage (two or more distinct episodes of proven ulceration or bleeding).

Severe heart failure.

#### 4.4 Special warnings and precautions for use

Undesirable effects associated with non-steroidal anti-inflammatory drugs (NSAIDs) may be reduced by using the minimum effective dose for the shortest possible duration. Patients treated with NSAIDs long-term should undergo regular medical supervision to monitor for adverse events.

The use of Nu-Seals 75 with concomitant NSAIDs including cyclooxygenase-2 selective inhibitors should be avoided.

Gastrointestinal bleeding, ulceration and perforation: GI bleeding, ulceration or perforation, which can be fatal, has been reported with all NSAIDs at anytime during treatment, with or without warning symptoms or a previous history of serious GI events.

The risk of GI bleeding, ulceration or perforation is higher with increasing NSAID doses, in patients with a history of ulcer, particularly if complicated with haemorrhage or perforation (see section 4.3), and in the elderly. These patients should commence treatment on the lowest dose available. Combination therapy with protective agents (e.g. misoprostol or proton pump inhibitors) should be considered for these patients, and also for patients requiring concomitant low dose aspirin, or other drugs likely to increase gastrointestinal risk (see below and 4.5).

Patients with a history of GI toxicity, particularly when elderly, should report any unusual abdominal symptoms (especially GI bleeding) particularly in the initial stages of treatment.

Caution should be advised in patients receiving concomitant medications which could increase the risk of ulceration or bleeding, such as oral corticosteroids, anticoagulants such as warfarin, selective serotonin-reuptake inhibitors or anti-platelet agents such as aspirin (see section 4.5).

When GI bleeding or ulceration occurs in patients receiving Nu-Seals 75, the treatment should be withdrawn.

NSAIDs should be given with care to patients with a history of gastrointestinal disease (ulcerative colitis, Crohn's disease) as their condition may be exacerbated (see section 4.8-undesirable effects).

There is a possible association between aspirin and Reye's syndrome when given to children. Reye's syndrome is a very rare disease, which affects the brain and liver, and can be fatal. For this reason aspirin should not be given to children and adolescents aged under 16 years unless specifically indicated.

Aspirin should be used with caution in patients with impaired renal, cardiac or hepatic function (avoid if severe), or in patients who are dehydrated since the use of NSAIDs may result in deterioration of renal function. Assessment of renal function should occur prior to the initiation of therapy and regularly thereafter.

Aspirin should be used with caution in patients with a history of peptic ulceration, inflammatory bowel disease or coagulation abnormalities. They may also induce gastro-intestinal haemorrhage, occasionally major.

Elderly patients are particularly susceptible to the adverse effects of NSAIDs, including aspirin, especially gastrointestinal bleeding and perforation which may be fatal (see section 4.2). Where prolonged therapy is required, patients should be reviewed regularly.

In patients with strokes, aspirin should not be given until the possibility of cerebral haemorrhage has been excluded.

Aspirin may also precipitate bronchospasm or induce attacks of asthma in susceptible subjects.

Patients with hypertension should be carefully monitored.

Aspirin decreases platelet adhesiveness and increased bleeding time. Haematological and haemorrhagic effects can occur, and may be severe. Patients should report any unusual bleeding symptoms to their physician.

Caution is required in patients with a history of hypertension and/or heart failure as fluid retention and oedema have been reported in association with NSAID therapy.

Serious skin reactions, some of them fatal, including exfoliative dermatitis, Stevens-Johnson syndrome, and toxic epidermal necrolysis, have been reported very rarely in association with the use of NSAIDs (see section 4.8). Patients appear to be at highest risk of these reactions early in the course of therapy, the onset of the reaction occurring in the majority of cases within the first month of treatment. Nu-Seals 75 should be discontinued at the first appearance of skin rash, mucosal lesions, or any other sign of hypersensitivity.

#### **Cardiovascular and cerebrovascular effects**

Appropriate monitoring and advice are required for patients with a history of hypertension and/or mild to moderate congestive heart failure as fluid retention and oedema have been reported in association with NSAID therapy.

Care should be taken when stopping therapy in those patients with multiple risk factors as the risk of a cerebrovascular event in the four weeks after aspirin discontinuation is significant. The risk/benefit of stopping aspirin therapy in the case of patients undergoing surgery should be considered.

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

Aspirin may enhance the effects of anticoagulants, antiplatelet agents and fibrinolytics leading to increased risk of bleeding.

It is considered unsafe to take NSAIDs in combination with warfarin or heparin unless under direct medical supervision.

Care should be taken in patients treated with any of the following drugs as interactions have been reported:

Anti-coagulants: NSAIDs may enhance the effects of anti-coagulants, such as warfarin (see section 4.4).

Anti-platelet agents and selective serotonin reuptake inhibitors (SSRIs): increased risk of gastrointestinal bleeding (see section 4.4).

Anti-hypertensives: reduced anti-hypertensive effect.

Diuretics: reduced diuretic effect. Diuretics can increase the risk of nephrotoxicity of NSAIDs.

Cardiac glycosides: NSAIDs may exacerbate cardiac failure, reduce GFR and increase plasma cardiac glycoside levels.

Lithium: decreased elimination of lithium.

Methotrexate: decreased elimination of methotrexate.

Cyclosporin: increased risk of nephrotoxicity with NSAIDs.

Aminoglycosides: reduction in renal function in susceptible individuals, decreased elimination of aminoglycoside and increased plasma concentrations.

Probenecid: reduction in metabolism and elimination of NSAIDs and metabolites.

Oral hypoglycemic agents: inhibition of metabolism of sulfonylurea drugs, prolonged half-life and increased risk of hypoglycaemia.

**Antacids:** Patients using enteric-coated aspirin should be advised against ingesting antacids simultaneously, to avoid premature drug release.

**Corticosteroids:** Plasma salicylate concentrations may be reduced by concurrent use of corticosteroids, and salicylate toxicity may occur following withdrawal of the corticosteroids. The risk of gastrointestinal ulceration and bleeding may be increased when aspirin and corticosteroids are co-administered (See section 4.4).

**Carbonic anhydrase inhibitors:** Concurrent administration of carbonic anhydrase inhibitors such as acetazolamide and salicylates may result in severe acidosis and increased central nervous system toxicity.

**Other NSAIDs:** avoid concomitant use with other NSAIDs.

**Ibuprofen:** Experimental data suggest that ibuprofen may inhibit the effect of low dose aspirin on platelet aggregation when they are dosed concomitantly. However, the limitations of these data and the uncertainties regarding extrapolation of ex vivo data to the clinical situation imply that no firm conclusions can be made for regular ibuprofen use, and no clinically relevant effect is considered to be likely for occasional ibuprofen use (see section 5.1).

**Phenytoin and valproate:** The effect of phenytoin and valproate may be enhanced by aspirin. However, no special precautions are needed.

#### **4.6 Fertility, pregnancy and lactation**

**Pregnancy:** Although clinical and epidemiological evidence suggests the safety of aspirin for use in pregnancy, caution should be exercised when considering use in pregnant patients. Aspirin has the ability to alter platelet function and there may be a risk of haemorrhage in infants whose mothers have consumed aspirin during pregnancy. Prolonged pregnancy and labour, with increased bleeding before and after delivery, decreased birth weight and increased rate of stillbirth have been reported with high blood salicylate levels. With high doses there may be premature closure of the ductus arteriosus and possible persistent pulmonary hypertension in the newborn. Analgesic doses of aspirin should be avoided during the last trimester of pregnancy.

**Lactation:** As aspirin is secreted into breast milk, Nu-Seals, should not be taken by patients who are breast-feeding, as there is a risk of Reye's syndrome in the infant. High maternal doses may impair platelet function in the infant.

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

Not applicable.

#### **4.8 Undesirable effects**

**Gastrointestinal:** The most commonly observed adverse events are gastrointestinal in nature. Peptic ulcers, perforation or GI bleeding, sometimes fatal, particularly in the elderly, may occur (see section 4.4). Nausea, vomiting, diarrhoea, flatulence, constipation, dyspepsia, abdominal pain, melaena, haematemesis, ulcerative stomatitis, exacerbation of colitis and Crohn's disease (see section 4.4- Special warnings and precautions for use) have been reported following administration. Less frequently, gastritis has been observed. The special coating of Nu-Seals 75 helps to reduce the incidence of side effects resulting from gastric irritation.

**Blood & lymphatic system:** Aspirin prolongs bleeding time, and bleeding disorders, have occasionally been reported. Haemorrhages and haematoma in various organ systems may result, and fatalities have occurred. Anaemia may occur following chronic gastrointestinal blood loss or acute haemorrhage. Very rarely, a reduction in platelet count (thrombocytopenia) may occur.

**Immune system:** Hypersensitivity reactions include skin rashes, urticaria, angioedema, bronchospasm and rarely, anaphylaxis.

**Nervous system:** Cerebral haemorrhage

**Ear & labyrinth:** Tinnitus

**Respiratory:** Asthma (see section 4.4 Special warnings and precautions), epistaxis, haemoptysis

**Skin & subcutaneous tissue:** Purpura, ecchymoses (see also Immune System)

**Renal & urinary:** Haematuria, urate kidney stones.

Oedema, hypertension and cardiac failure have been reported in association with NSAID treatment.

Bullous reactions including Stevens-Johnson syndrome and toxic epidermal necrolysis (very rare).

## 4.9 Overdose

If overdosage is suspected, the patient should be kept under observation for at least 24 hours, as symptoms and salicylate blood levels may not become apparent for several hours. With the enteric coated formulation, peak plasma levels may not occur for up to 12 hours.

### Symptoms

Common features include vomiting, dehydration, tinnitus, vertigo, deafness, sweating, warm extremities with bounding pulses, increased respiratory rate and hyperventilation. Some degree of acid-base disturbance is present in most cases.

Uncommon features include haematemesis, hyperpyrexia, hypoglycaemia, hypokalaemia, thrombocytopenia, increased INR/PTR, intravascular coagulation, renal failure and non-cardiogenic pulmonary oedema.

Central nervous system features including confusion, disorientation, coma and convulsions are less common in adults than in children.

Salicylate poisoning is usually associated with plasma concentrations >350 mg/L (2.5 mmol/L). Most adult deaths occur in patients whose concentrations exceed 700mg/L (5.1 mmol/L). Single doses less than 100 mg/kg are unlikely to cause serious poisoning.

A mixed respiratory alkalosis and metabolic acidosis with normal or high arterial pH (normal or reduced hydrogen ion concentration) is usual in adults and children over the age of 4 years. In children aged 4 years or less, a dominant metabolic acidosis with low arterial pH (raised hydrogen ion concentration) is common. Acidosis may increase salicylate transfer across the blood brain barrier.

### *Management*

Give oral activated charcoal if an adult presents within one hour of ingestion of more than 125 mg/kg. The plasma salicylate concentration should be measured for patients who have ingested > 125 mg/kg. However, the severity of poisoning cannot be determined from this alone and the clinical and biochemical features must be taken into account.

Urea and electrolytes, INR/PTR and blood glucose should be monitored. Elimination is increased by urinary alkalinisation, which is achieved by the administration of intravenous sodium bicarbonate. The urine pH should be monitored and further intravenous sodium bicarbonate may be required to maintain urinary pH 7.5-8.5 (first check serum potassium). Forced diuresis should not be used since it does not enhance salicylate excretion and may cause pulmonary oedema.

Haemodialysis is the treatment of choice for severe poisoning and should be considered in patients with plasma salicylate concentrations >700 mg/L (5.1 mmol/L), or lower concentrations associated with severe clinical or metabolic features. Patients under 10 years and over 70 have increased risk of salicylate toxicity, and may require dialysis at an earlier stage.

## 5 PHARMACOLOGICAL PROPERTIES

### 5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Salicylic Acid & Derivatives

ATC Code: N02B A

Aspirin has an antithrombotic action which is mediated through inhibition of platelet activation.

Nu-Seals 75 tablets have an enteric coat sandwiched between a sealing coat and a top coat. The enteric coat is intended to resist gastric fluid whilst allowing disintegration in the intestinal fluid.

Owing to the delay that the coating imposes on the release of the active ingredient, Nu-Seals 75 is unsuitable for the short-term relief of pain.

Experimental data suggest that ibuprofen may inhibit the effect of low dose aspirin on platelet aggregation when they are dosed concomitantly. In one study, when a single dose of ibuprofen 400mg was taken within 8 h before or within 30 min after immediate release aspirin dosing (81mg), a decreased effect of aspirin on the formation of thromboxane or platelet aggregation occurred. However, the limitations of these data and the uncertainties regarding extrapolation of ex vivo data to the clinical situation imply that no firm conclusions can be made for regular ibuprofen use, and no clinically relevant effect is considered to be likely for occasional ibuprofen use.

### 5.2 Pharmacokinetic properties

In a bioequivalence study comparing the pharmacokinetics of the 300mg Nu-Seals aspirin product with 4 x 75mg presentation in human volunteers, measures such as terminal phase half-life, area-under-the-curve and peak plasma concentrations were recorded on days 1 and 4. On day 1 salicylate reached a peak plasma concentration of between 10.34 and 31.57 mcg/ml and between 11.76 and 27.47 mcg/ml for the 300mg and 75mg tablets respectively. Time to peak concentration ranged from 4 to 8 hours and from 3 to 6 hours respectively. AUC 0-∞ ranged from 54.0 to 131.2 and from 64.3 to 137.6 h.mcg/ml respectively. The terminal phase half-life ranged from 1.33 to 2.63 hours and from 1.47 to 2.59 hours respectively. On day 4, C<sub>max</sub> varied from 15.01 to 48.97 mcg/ml for the 300mg tablet and from 11.26 to 60.21 mcg/ml for 4 x 75mg tablets. T<sub>max</sub> ranged from 4 to 8 hours and from 3 to 8 hours, whilst AUC 0-8range from 89.8 to 297.4 h.mcg/ml and from 61.5 to 293 h.mcg/ml respectively.

### 5.3 Preclinical safety data

There are no pre-clinical data of relevance to the prescriber which are additional to that already included in other sections of the SPC.

## 6 PHARMACEUTICAL PARTICULARS

### 6.1 List of excipients

Maize Starch  
Polyethylene glycol 3350  
Talc  
Emulsion silicone  
Hypromellose  
Propylene glycol  
Benzyl alcohol  
Methacrylic acid-ethyl acrylate (1:1) copolymer dispersion 30 per cent

Printing ink containing:

Shellac  
Iron oxide (E172)  
Isopropyl alcohol

n-Butyl alcohol  
Propylene glycol  
Ammonium hydroxide (E527)  
Simeticone

## **6.2 Incompatibilities**

Not applicable.

## **6.3 Shelf life**

Two years.

The shelf life expiry date of this product is the date shown on the blister and outer carton of the product as marketed in the country of origin.

## **6.4 Special precautions for storage**

Do not store above 25°C.

Store in the original package in order to protect from moisture.

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

UPVC/Aluminium foil blister packaging.

Pack size 28.

## **6.6 Special precautions for disposal and other handling**

No special requirements.

## **7 PARALLEL PRODUCT AUTHORISATION HOLDER**

Blackhall Pharmaceutical  
Saucerstown  
Swords  
Co. Dublin  
Ireland

## **8 PARALLEL PRODUCT AUTHORISATION NUMBER**

PPA0490/003/001

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

Date of first authorisation: 8th February 2013

## **10 DATE OF REVISION OF THE TEXT**