

## **SUMMARY OF PRODUCT CHARACTERISTICS**

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

Morphine Sulfate Injection 10 mg in 1 ml

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

Each 1 ml of solution contains 10 mg of Morphine Sulfate.

Excipients with known effect: Also contains 0.24 mg of sodium per ml and sodium metabisulphite (E223).

For the full list of excipients, see section 6.1.

### **3 PHARMACEUTICAL FORM**

Sterile aqueous solution for parenteral administration to human beings.

### **4 CLINICAL PARTICULARS**

#### **4.1 Therapeutic indications**

Morphine is used for the symptomatic relief of severe pain; relief of dyspnoea of left ventricular failure and pulmonary oedema; pre-operative use.

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

Morphine Sulfate may be given by the subcutaneous, intramuscular or intravenous route. The subcutaneous route is not suitable for oedematous patients. The dosage should be based on the severity of the pain and the response and tolerance of the individual patient. The epidural or intrathecal routes must not be used as the product contains a preservative.

Prior to starting treatment with opioids, a discussion should be held with patients to put in place a strategy for ending treatment with morphine sulfate in

order to minimise the risk of addiction and drug withdrawal syndrome (see section 4.4).

### **Posology**

#### **Adults:**

##### **Subcutaneous or intramuscular injection:**

10mg every four hours if necessary (the dose may vary from 5-20mg depending on the individual patient).

##### **Slow intravenous injection (2mg/min):**

Quarter to half of corresponding intramuscular dose not more than four hourly.

#### **Elderly and debilitated patients:**

Because of the depressant effect on respiration, caution is necessary when giving morphine to the elderly and reduced doses may be required.

#### **Paediatric Population:**

Use in children is not recommended.

#### **Hepatic impairment:**

A reduction in dosage should be considered in hepatic impairment.

#### **Renal impairment:**

The dosage should be reduced in moderate to severe renal impairment. For concomitant illnesses/conditions where dose reduction may be appropriate see 4.4 Special Warnings and Precautions for Use.

#### **Discontinuation of therapy**

An abstinence syndrome may be precipitated if opioid administration is suddenly discontinued. Therefore, the dose should be gradually reduced prior to discontinuation.

#### **Method of administration**

The injection may be given by the intravenous, intramuscular or subcutaneous route. The subcutaneous route is not suitable for oedematous patients. The dosage should be based on the severity of the pain and the response and tolerance of the individual patient. The epidural or intrathecal routes must not be used as the product contains a preservative.

#### **Treatment goals and discontinuation**

Before initiating treatment with morphine sulphate injection, a treatment strategy including treatment duration and treatment goals, and a plan for end

of the treatment, should be agreed together with the patient, in accordance with pain management guidelines. During treatment, there should be frequent contact between the physician and the patient to evaluate the need for continued treatment, consider discontinuation and to adjust dosages if needed. When a patient no longer requires therapy with morphine sulphate injection, it may be advisable to taper the dose gradually to prevent symptoms of withdrawal. In absence of adequate pain control, the possibility of hyperalgesia, tolerance and progression of underlying disease should be considered (see section 4.4).

#### Duration of treatment

Morphine sulphate injection should not be used longer than necessary.

### **4.3 Contraindications**

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.

Acute respiratory depression, known morphine sensitivity, biliary colic (see also biliary tract disorders 4.4 Special Warnings and Precautions), acute alcoholism. Conditions in which intracranial pressure is raised, comatose patients, head injuries, as there is an increased risk of respiratory depression that may lead to elevation of CSF pressure. The sedation and pupillary changes produced may interfere with accurate monitoring of the patient. Morphine is also contraindicated where there is a risk of paralytic ileus, or in acute diarrhoeal conditions associated with antibiotic-induced pseudomembranous colitis or diarrhoea caused by poisoning (until the toxic material has been eliminated).

Phaeochromocytoma (due to the risk of pressor response to histamine release).

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

Morphine should be given in reduced doses or with caution to patients with asthma or decreased respiratory reserve (including cor pulmonale, kyphoscoliosis, emphysema, severe obesity). Avoid use during an acute asthma attack (see 4.3 Contraindications). Opioid analgesics in general should be given with caution or in reduced doses to patients with hypothyroidism, adrenocortical insufficiency, prostatic hypertrophy, urethral stricture, hypotension, shock, inflammatory or obstructive bowel disorders, or convulsive disorders.

Opioids such as morphine should either be avoided in patients with biliary disorders or they should be given with an antispasmodic.

### **Hepatobiliary disorders**

Morphine may cause dysfunction and spasm of the sphincter of Oddi, thus raising intrabiliary pressure and increasing the risk of biliary tract symptoms and pancreatitis. Therefore in patients with biliary tract disorders morphine may exacerbate pain (use in biliary colic is a contraindication, see 4.3). In patients given morphine after cholecystectomy, biliary pain has been induced.

Caution is advised when giving morphine to patients with impaired liver function due to its hepatic metabolism (see 4.2 Posology).

Severe and prolonged respiratory depression has occurred in patients with renal impairment who have been given morphine (see 4.2 Posology).

Dosage should be reduced in elderly and debilitated patients (see 4.2 Posology).

### **Oral P2Y12 inhibitor antiplatelet therapy**

Within the first day of concomitant P2Y12 inhibitor and morphine treatment, reduced efficacy of P2Y12 inhibitor treatment has been observed (see section 4.5).

### **Dependence and withdrawal (abstinence) syndrome**

Use of opioid analgesics may be associated with the development of physical and/or psychological dependence or tolerance. The risk increases with the time the drug is used, and with higher doses. Symptoms can be minimised with adjustments of dose or dosage form, and gradual withdrawal of morphine. For individual symptoms, see section 4.8.

### **Drug dependence, tolerance and potential for abuse**

For all patients, prolonged use of this product may lead to drug dependence (addiction), even at therapeutic doses. The risks are increased in individuals with current or past history of substance misuse disorder (including alcohol misuse) or mental health disorder (e.g., major depression).

Additional support and monitoring may be necessary when prescribing for patients at risk of opioid misuse.

A comprehensive patient history should be taken to document concomitant medications, including over-the-counter medicines and medicines obtained online, and past and present medical and psychiatric conditions.

Patients may find that treatment is less effective with chronic use and express a need to increase the dose to obtain the same level of pain control as initially experienced. Patients may also supplement their treatment with additional pain relievers. These could be signs that the patient is developing tolerance.

The risks of developing tolerance should be explained to the patient.

Overuse or misuse may result in overdose and/or death. It is important that patients only use medicines that are prescribed for them at the dose they have been prescribed and do not give this medicine to anyone else.

Patients should be closely monitored for signs of misuse, abuse, or addiction. The clinical need for analgesic treatment should be reviewed regularly.

Morphine has an abuse potential similar to other strong agonist opioids, and should be used with particular caution in patients with a history of alcohol or drug abuse.

### **Drug withdrawal syndrome**

Prior to starting treatment with any opioids, a discussion should be held with patients to put in place a withdrawal strategy for ending treatment with morphine sulfate.

Drug withdrawal syndrome may occur upon abrupt cessation of therapy or dose reduction. When a patient no longer requires therapy, it is advisable to taper the dose gradually to minimise symptoms of withdrawal. Tapering from a high dose may take weeks to months.

The opioid drug withdrawal syndrome is characterised by some or all of the following: restlessness, lacrimation, rhinorrhoea, yawning, perspiration, chills, myalgia, mydriasis and palpitations. Other symptoms may also develop including irritability, agitation, anxiety, hyperkinesia, tremor, weakness, insomnia, anorexia, abdominal cramps, nausea, vomiting, diarrhoea, increased blood pressure, increased respiratory rate or heart rate.

If women take this drug during pregnancy, there is a risk that their newborn infants will experience neonatal withdrawal syndrome.

**Palliative care** - in the control of pain in terminal illness, these conditions should not necessarily be a deterrent to use.

### **Hyperalgesia**

Hyperalgesia may be diagnosed if the patient on long-term opioid therapy presents with increased pain. This might be qualitatively and anatomically distinct from pain related to disease progression or to breakthrough pain resulting from development of opioid tolerance. Pain associated with hyperalgesia tends to be more diffuse than the pre-existing pain and less

defined in quality. Symptoms of hyperalgesia may resolve with a reduction of opioid dose.

Hyperalgesia that does not respond to a further dose increase of morphine may occur in particular in high doses. A morphine dose reduction or change in opioid may be required.

**Risk from concomitant use of sedative medicines such as benzodiazepines or related drugs:**

Concomitant use of morphine sulfate and sedative medicines such as benzodiazepines or related drugs may result in sedation, respiratory depression, coma and death. Because of these risks, concomitant prescribing with these sedative medicines should be reserved for patients for whom alternative treatment options are not possible. If a decision is made to prescribe morphine sulfate concomitantly with sedative medicines, the lowest effective dose should be used, and the duration of treatment should be as short as possible.

The patients should be followed closely for signs and symptoms of respiratory depression and sedation. In this respect, it is strongly recommended to inform patients and their caregivers to be aware of these symptoms (see section 4.5).

Plasma concentrations of morphine may be reduced by rifampicin. The analgesic effect of morphine should be monitored and doses of morphine adjusted during and after treatment with rifampicin.

**Sleep-related breathing disorders**

Opioids can cause sleep-related breathing disorders including central sleep apnoea (CSA) and sleep-related hypoxemia. Opioid use increases the risk of CSA in a dose-dependent fashion. In patients who present with CSA, consider decreasing the total opioid dosage.

**Severe cutaneous adverse reactions (SCARs)**

Acute generalized exanthematous pustulosis (AGEP), which can be life-threatening or fatal, has been reported in association with morphine treatment. Most of these reactions occurred within the first 10 days of treatment. Patients should be informed about the signs and symptoms of AGEP and advised to seek medical care if they experience such symptoms.

If signs and symptoms suggestive of these skin reactions appear, morphine should be withdrawn and an alternative treatment considered.

**Opioid Use Disorder (abuse and dependence)**

Tolerance and physical and/or psychological dependence may develop upon repeated administration of opioids such as morphine sulphate injection.

Repeated use of morphine sulphate injection can lead to Opioid Use Disorder (OUD). A higher dose and longer duration of opioid treatment, can increase the risk of developing OUD. Abuse or intentional misuse of morphine sulphate injection may result in overdose and/or death. The risk of developing OUD is increased in patients with a personal or a family history (parents or siblings) of substance use disorders (including alcohol use disorder), in current tobacco users or in patients with a personal history of other mental health disorders (eg. major depression, anxiety and personality disorders).

Before initiating treatment with morphine sulphate injection and during the treatment, treatment goals and a discontinuation plan should be agreed with the patient (see section 4.2). Before and during treatment the patient should also be informed about the risks and signs of OUD. If these signs occur, patients should be advised to contact their physician.

Patients will require monitoring for signs of drug-seeking behavior (e.g. too early requests for refills). This includes the review of concomitant opioids and psycho-active drugs (like benzodiazepines). For patients with signs and symptoms of OUD, consultation with an addiction specialist should be considered.

#### **Acute chest syndrome (ACS) in patients with sickle cell disease (SCD)**

Due to a possible association between ACS and morphine use in SCD patients treated with morphine during a vaso-occlusive crisis, close monitoring for ACS symptoms is warranted.

#### **Adrenal insufficiency**

Opioid analgesics may cause reversible adrenal insufficiency requiring monitoring and glucocorticoid replacement therapy. Symptoms of adrenal insufficiency may include e.g. nausea, vomiting, loss of appetite, fatigue, weakness, dizziness, or low blood pressure.

#### **Decreased Sex Hormones and increased prolactin**

Long-term use of opioid analgesics may be associated with decreased sex hormone levels and increased prolactin. Symptoms include decreased libido, impotence or amenorrhea.

#### **Important information regarding the ingredients of Morphine Sulfate Injection**

**Sodium:** This medicine contains less than 1 mmol sodium (23 mg) per unit volume, that is to say essentially 'sodium-free'.

**Sodium metabisulfite:** May rarely cause severe hypersensitivity reactions and bronchospasm.

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

**Alcohol:** enhanced sedative and hypotensive effects.

**Anti-arrhythmics:** There may be delayed absorption of mexiletine.

**Antibacterials:** The opioid analgesic papaveretum has been shown to reduce plasma ciprofloxacin concentration. The manufacturer of ciprofloxacin advises that premedication with opioid analgesics be avoided.

**Antidepressants, anxiolytics, hypnotics:** Severe CNS excitation or depression (hypertension or hypotension) has been reported with the concurrent use of pethidine and monoamine oxidase inhibitors (MAOIs) including selegiline, moclobemide and linezolid. As it is possible that a similar interaction may occur with other opioid analgesics, morphine should be used with caution and consideration given to a reduction in dosage in patients receiving MAOIs.

The sedative effects of morphine (opioid analgesics) are enhanced when used with depressants of the central nervous system such as hypnotics, anxiolytics, tricyclic antidepressants and sedating antihistamines.

**Antipsychotics:** possible enhanced sedative and hypotensive effect.

**Antidiarrhoeal and antiperistaltic agents (such as loperamide and kaolin):** concurrent use may increase the risk of severe constipation.

**Antimuscarinics:** agents such as atropine antagonise morphine-induced respiratory depression and can partially reverse biliary spasm but are additive to the gastrointestinal and urinary tract effects. Consequently, severe constipation and urinary retention may occur during intensive antimuscarinic-analgesic therapy.

**Metoclopramide and domperidone:** There may be antagonism of the gastrointestinal effects of metoclopramide and domperidone.

**Sedative medicines such as benzodiazepines or related drugs:** The concomitant use of opioids with sedative medicines such as benzodiazepines or related drugs increases the risk of sedation, respiratory depression, coma

and death because of additive CNS depressant effect. The dose and duration of concomitant use should be limited (see section 4.4).

**Oral P2Y12 inhibitor antiplatelet therapy:** A delayed and decreased exposure to oral P2Y12 inhibitor antiplatelet therapy has been observed in patients with acute coronary syndrome treated with morphine. This interaction may be related to reduced gastrointestinal motility and apply to other opioids. The clinical relevance is unknown, but data indicate the potential for reduced P2Y12 inhibitor efficacy in patients co-administered morphine and a P2Y12 inhibitor (see section 4.4). In patients with acute coronary syndrome, in whom morphine cannot be withheld and fast P2Y12 inhibition is deemed crucial, the use of a parenteral P2Y12 inhibitor may be considered.

**Central nervous system depressants:** Morphine should be used with caution in patients who are concurrently receiving other central nervous system depressants including sedatives or hypnotics, general anaesthetics, phenothiazines, other tranquilisers, muscle relaxants, antihypertensives, gabapentin or pregabalin and alcohol. Interactive effects resulting in respiratory depression, hypotension, profound sedation, or coma may result if these drugs are taken in combination with the usual doses of morphine.

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

##### **Pregnancy:**

Newborns whose mothers received opioid analgesics during pregnancy should be monitored for signs of neonatal withdrawal (abstinence) syndrome. Treatment may include an opioid and supportive care.

Regular use during pregnancy may cause drug dependence in the foetus, leading to withdrawal symptoms in the neonate.

If opioid use is required for a prolonged period in a pregnant woman, advise the patient of the risk of neonatal opioid withdrawal syndrome and ensure that appropriate treatment will be available.

Administration during labour may depress respiration in the neonate and an antidote for the child should be readily available.

##### **Breast-feeding:**

Administration to nursing women is not recommended as morphine sulfate may be secreted in breast milk and may cause respiratory depression in the infant.

### **Fertility**

Animal studies have shown that morphine may reduce fertility (see 5.3. preclinical safety data).

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

Morphine causes drowsiness so patients should avoid driving or operating machinery. This medicine can impair cognitive function and can affect a patient's ability to drive safely. This class of medicine is in the list of drugs included in regulations under 5a of the Road of Traffic Act 1988. When prescribing this medicine, patients should be told:

- The medicine is likely to affect your ability to drive
- Do not drive until you know how the medicine affects you
- It is an offence to drive while under the influence of this medicine.
- However, you would not be committing an offence (called 'statutory defence') if:
  - o The medicine has been prescribed to treat a medical or dental problem and
  - o You have taken it according to the instructions given by the prescriber and in the information provided with the medicine and
  - o It was not affecting your ability to drive safely

## **4.8 Undesirable effects**

The most serious hazard of therapy is respiratory depression (see also 4.9 Overdose).

The commonest side-effects of morphine are nausea, vomiting, constipation, drowsiness and dizziness. Tolerance generally develops with long term use, but not to constipation.

Other side effects include the following:

**Anaphylaxis:** Anaphylactic reactions following intravenous injection have been reported rarely.

**Cardiovascular disorders:** facial flushing bradycardia, palpitations, tachycardia, orthostatic hypotension.

**Nervous System disorders:** myoclonus, mental clouding, confusion (with large doses), hallucinations, headache, vertigo, mood changes including dysphoria and euphoria.

*Not known:* allodynia, hyperalgesia (see section 4.4), hyperhidrosis.

**Gastrointestinal disorders:** biliary spasm.

*Not known:* Pancreatitis, dry mouth

**Eye Disorders:** blurred or double vision or other changes in vision, miosis.

**Immune System disorder:**

*Not known:* Anaphylactoid reactions

**Psychiatric disorders:**

*Not known:* Drug dependence (see section 4.4)

**General disorders and administration site conditions:**

*Not known:* drug withdrawal (abstinence) syndrome

**Reproductive system and breast disorders:** long term use may lead to a reversible decrease in libido or potency.

**Skin and subcutaneous tissue disorders:** pruritus, urticaria, rash, sweating. Contact dermatitis has been reported and pain and irritation may occur on injection.

*Not known:* Acute generalised exanthematous pustulosis (AGEP)

**Renal and urinary disorder:** difficulty with micturition, ureteric spasm, urinary retention, antidiuretic effect. Tolerance develops to the effects of opioids on the bladder.

**Respiratory, thoracic and mediastinal disorders:**

*Not known:* Central sleep apnoea syndrome

**Hepatobiliary disorders:**

*Not known:* Spasm of sphincter of Oddi

**Description of selected adverse reactions:**

**Drug dependence and withdrawal (abstinence) syndrome**

Use of opioid analgesics may be associated with the development of physical and/or psychological dependence or tolerance. An abstinence syndrome may be precipitated when opioid administration is suddenly discontinued or opioid antagonists administered, or can sometimes be experienced between doses. For management, see section 4.4.

Physiological withdrawal symptoms include: Body aches, tremors, restless legs syndrome, diarrhoea, abdominal colic, nausea, flu-like symptoms, tachycardia and mydriasis. Psychological symptoms include dysphoric mood, anxiety and irritability. In drug dependence, 'drug craving' is often involved. The euphoric activity of morphine has led to its abuse.

Repeated use of morphine sulphate injection can lead to drug dependence, even at therapeutic doses. The risk of drug dependence may vary depending on a patient's individual risk factors, dosage, and duration of opioid treatment (see section 4.4).

### **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 balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the yellow card scheme Website: [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard) or search for MHRA Yellow Card in the Google Play or Apple App Store.

## **4.9 Overdose**

Patients should be informed of the signs and symptoms of overdose and to ensure that family and friends are also aware of these signs and to seek immediate medical help if they occur.

Toxic doses vary considerably with the individual, and regular users may tolerate large doses.

The triad of respiratory depression, coma and constricted pupils is considered indicative of opioid overdosage with dilatation of the pupils occurring as hypoxia develops. Death may occur from respiratory failure.

Other opioid overdose symptoms include hypothermia, pneumonia aspiration, confusion, severe dizziness, severe drowsiness, hypotension, bradycardia, circulatory failure pulmonary oedema, severe nervousness or restlessness, hallucinations, convulsions (especially in infants and children). Rhabdomyolysis, progressing to renal failure, has been reported in overdosage.

Treatment: The medical management of overdose involves prompt administration of the specific opioid antagonist naloxone if coma or

bradypnoea are present using one of the recommended dosage regimens. Both respiratory and cardiovascular support should be given where necessary.

## **5 PHARMACOLOGICAL PROPERTIES**

### **5.1 Pharmacodynamic properties**

Morphine is a narcotic analgesic obtained from opium, which acts mainly on the central nervous system and smooth muscle.

Morphine is a potent analgesic with competitive agonist actions at the  $\mu$ -receptor, which is thought to mediate many of its other actions of respiratory depression, euphoria, inhibition of gut motility and physical dependence. It is possible that analgesia, euphoria and dependence may be due to the effects of morphine on a  $\mu$ -1 receptor subtype, while respiratory depression and inhibition of gut motility may be due to actions on a  $\mu$ -2 receptor subtype. Morphine is also a competitive agonist at the  $\kappa$ -receptor that mediates spinal analgesia, miosis and sedation. Morphine has no significant actions at the other two major opioid receptors, the  $\delta$ - and the  $\sigma$ -receptors.

Morphine directly suppresses cough by an effect on the cough centre in the medulla. Morphine also produces nausea and vomiting by directly stimulating the chemoreceptor trigger zone in the area postrema of the medulla. Morphine provokes the release of histamine.

### **5.2 Pharmacokinetic properties**

#### **Absorption:**

Variably absorbed after oral administration; rapidly absorbed after subcutaneous or intramuscular administration.

**Blood concentration:** After an oral dose of 10mg as the sulfate, peak serum concentrations of free morphine of about 10ng/ml are attained in 15 to 60 minutes; after an intramuscular dose of 10mg, peak serum concentrations of 70 to 80ng/ml are attained in 10 to 20 minutes; after an intravenous dose of 10mg, serum concentrations of about 60ng/ml are obtained in 15 minutes falling to 30ng/ml after 30 minutes and to 10ng/ml after 3 hours; subcutaneous doses give similar concentrations to intramuscular doses at 15 minutes but remain slightly higher during the following 3 hours; serum concentrations measured soon after administration correlate closely with the ages of the subjects studied and are increased in the elderly.

#### **Half life:**

Serum half life in the period 10 minutes to 6 hours following intravenous administration, 2 to 3 hours; serum half life in the period 6 hours onwards, 10 to 44 hours.

**Distribution:**

Widely distributed throughout the body, mainly in the kidneys, liver, lungs and spleen; lower concentrations appear in the brain and muscles; morphine crosses the placenta and traces are secreted in sweat and milk; protein binding, about 35% bound to albumin and to immunoglobulins at concentrations within the therapeutic range.

**Biotransformation:**

Mainly glucuronic acid conjugation to form morphine-3 and 6-glucuronides, with sulfate conjugation. N-demethylation, O-methylation and N-oxide glucuronide formation occurs in the intestinal mucosa and liver; N-demethylation occurs to a greater extent after oral than parenteral administration; the O-methylation pathway to form codeine has been challenged and codeine and norcodeine metabolites in urine may be formed from codeine impurities in the morphine sample studied.

**Elimination:**

After an oral dose, about 60% is excreted in the urine in 24 hours, with about 3% excreted as free morphine in 48 hours; after parenteral dose, about 90% is excreted in 24 hours, with about 10% as free morphine, 65 to 70% as conjugated morphine, 1% as normorphine and 3% as normorphine glucuronide; after administration of large doses to addicts about 0.1% of a dose is excreted as norcodeine; urinary excretion of morphine appears to be pH dependent to some extent: as the urine becomes more acidic more free morphine is excreted and as the urine becomes more alkaline more of the glucuronide conjugate is excreted; up to 10% of a dose may be excreted in the bile.

### **5.3 Preclinical safety data**

In male rats, reduced fertility and chromosomal damage in gametes have been reported.

## **6 PHARMACEUTICAL PARTICULARS**

### **6.1 List of excipients**

Sodium metabisulphite  
Sodium hydroxide (as in solution)  
Sulphuric acid (as in solution)  
Water for injection

### **6.2 Incompatibilities**

Morphine salts are sensitive to changes in pH and morphine is liable to be precipitated out of solution in an alkaline environment. Compounds incompatible with morphine salts include aminophylline and sodium salts of barbiturates and phenytoin. Other incompatibilities (sometimes attributed to particular formulations) have included aciclovir sodium, doxorubicin, fluorouracil, frusemide, heparin sodium, pethidine hydrochloride, promethazine hydrochloride and tetracyclines. Specialised references should be consulted for specific compatibility information.

Physicochemical incompatibility (formation of precipitates) has been demonstrated between solutions of morphine sulphate and 5- fluorouracil

### **6.3 Shelf life**

3 years

### **6.4 Special precautions for storage**

Store below 25°C and protect from light.

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

Ceramically printed, ring snap ampoule manufactured from white neutral glass type 1, conforming to European Pharmacopoeia test for hydrolytic resistance containing morphine sulfate injection 10mg in 1ml, packed in cartons of 5 or 10 ampoules.

Ring snap ampoule manufactured from white neutral glass type 1 conforming to European Pharmacopoeia test for hydrolytic resistance to which will be attached an adhesive vinyl label after filling containing morphine sulfate injection 10mg in 1ml, packed in cartons of 5 or 10 ampoules.

### **6.6 Special precautions for disposal**

None

**7      MARKETING AUTHORISATION HOLDER**

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17 May 1982 / 15 September 1997

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